

Adolescents and youth in adult hospitals: psychosocial assessment on admission – an evaluation of the youth care plan

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KEY WORDS

adolescent, admission, adult hospital, psychosocial assessment, care plan

ABSTRACT

Objective

The study was undertaken to evaluate the effectiveness of our previously published Youth Care Plan (YCP) as a tool for the psychosocial assessment of adolescents and young adults admitted to hospital.

Design

A comparative study of a quasi-convenient sample of two pre-defined groups

Setting

Young people aged 12-24 years admitted to a university teaching hospital in Sydney, New South Wales (NSW), Australia.

Subjects

Group 1 had a completed YCP on admission and a HEADSS assessment during their admission. Group 2 had no completed YCP and had a HEADSS assessment during their admission. Group 1 n = 20 (15F) with a mean age of 18.8 yrs; Group 2 (7F) with a mean age of 20.1 yrs.

Main outcome measure

Group 1 tests the hypothesis that the YCP is capable of identifying most psychosocial issues in a brief assessment, compared to the formal HEADSS interview. Group 2 tests the hypothesis that a significant proportion of young people admitted to hospital have some psychosocial issues that may impact on management.

Results

The psychosocial risks detected with the YCP are 72.5%, of those identified by HEADSS interview. Young people with a standard care plan have the same number of risks identified as those with the YCP. Risk issues that YCP was less likely to identify were drug use and depression.

Conclusions

The YCP provides an opportunistic screen for lifestyle risks in adolescents on admission to an acute adult care facility that can be undertaken by nurses in their routine care. Training may be necessary to provide confidence to ask about more sensitive risk issues.

INTRODUCTION

Young people aged 12-24 years have specific health care and developmental needs that differ from those of children or adults. The enormous changes in psychological, cognitive, emotional, spiritual and social development, together with puberty, have unique implications for the delivery of health care, including in acute care settings. (NSW Department of Health 2010; Tylee et al 2007).

Both negative and positive health behaviours may develop in adolescence, and risk taking during this time is often exploratory and part of normal development (Irwin 2010). Higher risk behaviours often cluster together and have both short and long consequences (Hair et al 2009; Suris et al 2008; Bender 2006; Viner and Macfarlane 2005; van Amstel et al 2004; Zink et al 2003; Carr-Gregg et al 2003). Thus risk behaviours may not only have an impact on acute health in the 'well' adolescent, but also have a significant impact on disease management and therapy compliance in adolescents with a chronic illness (Suris et al 2008; Dieppe et al 2008; Bender 2006; Rosina et al 2003).

Acute adult care facilities are often ill equipped to deal with the complex developmental issues of adolescence and youth. A growing body of literature highlights the need for adult hospitals to provide training to staff, health risk screening and develop appropriate adolescent friendly services (Tan et al 2009; The Royal Australasian College of Physicians 2008; Sawyer et al 2007; World Health Organization 2002; Yeo et al 2005). Adult care facilities frequently deal with young people with chronic illness transitioning from paediatric care (Steinbeck et al 2007) and in whom risk taking may be greater than their non-illness peers (Suris et al 2008).

Primary health care settings and an admission to hospital should be viewed as an opportunity to assess broader psychosocial health (Booth et al 2008). The reason for hospitalisation will not be primarily psychosocial, but psychosocial issues may have an impact on medical and surgical outcomes or may need to be addressed in addition to the presenting problem.

Nursing care plans are universally used and are seen as an essential tool in the delivery of nursing care (Björvell et al 2000; Mason 1999). In Australia, nursing care plans are the primary means of documenting, communicating and structuring patient care (O'Connell et al 2000). The age appropriateness of care plans are acknowledged by paediatric plans which emphasise the need to mimic the home environment, and adult plans which concentrate on issues relevant to an older demographic such as falls, drug interactions, multiple co-morbidities and cognitive impairment.

The authors have previously published on the development of a Youth Care Plan (YCP) which acknowledged that information necessary for optimal care of young people was not being routinely collected on admission in adult facilities (Sturrock et al 2007). The YCP addressed the psychosocial profile of the adolescent and young adult in the context of health care delivery and provided an opportunistic screen for lifestyle risks and protective factors on admission, as well as filling the requirements of a standard care plan. Questions relevant to psychosocial wellbeing were based on the HEADSS interview (Goldenring and Rosen 2004).

An extensive literature review using Medline, CINHALL and Embase, over the past 20 years, was conducted by the authors and revealed no published research where the HEADSS interview has been used as a comparator for some other risk assessment format on admission to hospital.

The first aim of this evaluation research was to demonstrate the effectiveness of the YCP to identify psychosocial issues not necessarily related to the admission but potentially relevant to its outcome, when compared to a formal HEADSS interview. The second aim was to demonstrate that using a standard care plan instead of the YCP in young people would fail to detect psychosocial issues of consequence to health and wellbeing. We hypothesised that a completed YCP on admission to hospital would identify at least 75% of any psychosocial

issues present in that adolescent, when compared to a lengthy HEADSS interview. Furthermore, we hypothesised that young people who had a standard care plan completed would have psychosocial issues that may impact on treatment, as frequently as those who had a YCP completed.

METHODOLOGY

Participants were young people aged 12-24 years admitted to the acute hospital wards of Royal Prince Alfred Hospital, Sydney, Australia. Exclusion criteria included a psychiatric or obstetric admission, lack of facility with spoken English, too seriously ill to take part, and if they were already known to the investigator. A quasi-convenience sample was recruited from the daily census list (alphabetical) of age defined group admissions. Young people were sequentially approached from the list. The recruitment of subjects required meeting adolescents for the first time during their admission in hospital and the establishment of rapport. Participation required written consent from the young person and parental consent if under 16 years of age. After recruitment and consent the participant's notes were viewed to ascertain presence of YCP (Group 1) or standard non YCP care plan which did not address any of the HEADSS categories (Group 2).

Research tools: The details for the YCP have been previously reported (Sturrock et al 2007). It combines a modified HEADSS data collection within a traditional care plan structure. The HEADSS is an established tool for the performance of a full psychosocial assessment in the adolescent (Goldenring and Rosen 2004), which uses a semi-structured interview technique, and usually take 30-40 minutes to perform. **H**ome, **E**ducation, **E**ating, **A**ctivities & peers, **D**rugs & alcohol, **S**uicidality & depression, **S**exuality and **S**leep are all covered.

Outcome measures

In order to be able to compare information written on the YCP by a third party, with the information obtained on oral HEADSS interview and because there was no published precedent, the authors developed a schema to allow objective comparisons between the two groups. Interview responses were documented on the Youth Health Risk Assessment form as qualitative data, as this format does not provide for any quantitative data (Chown et al 2004). The researchers had to develop a quantitative approach to compare the HEADSS information with the Youth Care Plan data. The researchers were unable to find any reference to such a methodology in the published literature. Our approach was based on selection of key risk behaviours which were considered age appropriate, well-recognised and relevant to a hospital admission and management. These risk behaviours were recorded under eight categories: Home Environment, Employment, Education, Exercise, Peer related Activities, Sexuality, Suicide/Depression and Sleep. and each category was given a score. Details of why and how risk behaviours were identified are provided in Appendix 1, together with literature references. A positive risk behaviour response to each category was scored as one point. Adolescents who reported no risk behaviour in a category were given a score of zero. Those who reported risk behaviour in the category Drugs were scored with a maximum of three points. Individual scores were given to no/risk behaviour involving tobacco, alcohol and other drugs with either zero or one point. These numbers are binary indicators (see Appendix 1) and not quantitative scores. To avoid bias, information from the YCP for Group 1 was only collected after the HEADSS interview and a random sample of YCP scores were reviewed and coded to ensure reporting integrity. Interviews were carried out, between March 2010 and September 2010.

Data analysis

Participant details were entered into an Excel spread sheet and exported to SPSS (Version 19) for analysis. Two sets of t-tests were conducted: 1) a paired sample t-test to compare the two different risk assessments for Group 1 – YCP and HEADSS; and 2) an independent samples t-test to compare the HEADSS assessment for Group 1 and Group 2. Results are reported as mean + SD and significance level set at $p < 0.05$.

Ethics

The Ethics Review Committee, Research and Development Office at Royal Prince Alfred Hospital, Sydney, Australia, approved this study: protocol number X07-030.

RESULTS

A total of 40 young people took part in the study. Group 1 (n = 20; 15F), who had both the YCP filled out and the HEADSS interview completed, had a mean age of 18.8 years (Range: 14–22 years). Sixty percent of Group 1 had a chronic illness. Group 2 (n=20; 7F) who had HEADSS interview had a mean age of 20.1 years (Range: 16-23 years). Sixty five percent of Group 2 had a chronic illness. The overall age and gender distribution for the total sample was similar to the general adolescent population seen in the acute tertiary facility as recorded in hospital admission statistics and Adolescent Service database. The main reasons for not obtaining consent were not feeling well enough at the scheduled time to complete the interview and not having enough time available as a result of investigations and/or therapy.

The average time spent on each HEADSS interview for Group 1 and Group 2 was 41 minutes (Range: 20-60 minutes) and 39 minutes (Range: 30-60minutes) respectively. It took an average of two visits (Range 1-4 visits) to establish enough rapport to obtain consent for an interview with a young person in both Groups.

The major groups identified for hospitalisation with a chronic illness were cystic fibrosis, cancer and congenital cardiac disease. The major groups identified for an acute hospitalisation were trauma, abdominal pain and infection post trauma. When all participants were grouped according to the presence or absence of chronic illness, those with chronic illness had a total of nearly three times the number of risk behaviours as identified by the HEADSS interview (31 versus 11).

The YCP takes an average of six to eight minutes to complete, as it is a tick box system with room for text. Eight of the twenty YCPs were missing some information, generally from the second page of the plan. Table 1 shows the individual and total number of risks identified in both Groups. The total number of participant risks identified in Group 1 using the YCP was significantly different from the number of participant risks identified by the HEADSS psychosocial assessment in the same group. For the YCP, the mean number of individual risks identified was 1.5+1.36. In Group 1, the mean number of individual risks identified by HEADSS interview was 2.0+1.59. The paired samples correlation was 0.708 (p=0.0) and the absolute percentage 72.5%. The paired sample t-test showed a significant difference between risk number identified by the two tools, p =0.045. Looking at table 1 Drugs and Suicidality/Depression are where the main discrepancies exist. The one area where the risk number was higher on YCP compared to HEADSS was sleep, but absolute numbers are low.

Table 1: Combined risk data identified for Group 1 YCP and HEADSS assessment and Group 2 HEADSS assessment

	Home	Education/ Employment	Exercise	Peer- related Activites	Drugs	Sexuality	Suicidality/ Depression	Sleep	TOTAL
Group 1 YCP	3	5	6	2	7	0	1	5	29
Group 1 HEADSS	4	5	7	2	13	0	7	2	40
Group 2 HEADSS	4	6	7	3	14	1	5	2	42

The summary data for the HEADSS interview for Group 1 (table 1) is no different to Group 2, revealing a similar detection of risk behaviours in number and type for those young people who had the standard adult care plan completed. The mean number of individual risks was 2.1+1.86 and no different to Group 1 HEADSS data using an independent sample t-test ($p=0.86$)

DISCUSSION

This is the first study of which the authors are aware which attempts to validate an in-patient risk assessment tool for youth, which is incorporated into a standard care plan. Our sample of young people was admitted to an acute care facility and had both chronic and acute conditions.

There are two key findings. First, when compared to the gold standard HEADSS interview a youth specific care plan identifies close to 75% of the risks identified by the HEADSS. Drug use and suicidality/depression were less likely to be identified by YCP. Secondly, in the sample of youth (Group 2) who had a standard adult care plan which did not address youth relevant risk behaviours, their risk profile was identical to that of Group 1.

Drugs and suicidality/depression sections in the semi-structured HEADSS assessment allow a broader discussion about drugs usage, as well as around mood and coping mechanisms. This discussion comes after the less sensitive areas of home, education and peers have been addressed. Young people may feel more comfortable discussing these topics with a stranger during the latter part of the assessment when rapport is better established. It is likely that the reverse is true for the YCP where young people may answer no to drug and suicidality/depression questions because, although these are at the end of the questions, the whole session has lasted 10 minutes and perhaps in the rushed environment of admission. Another reason for this apparent under-reporting is that the Drugs and Suicidality/Depression categories in the YCP appear on the second page of the care plan, which in 40% was not filled out properly. The third reason is that nursing staff may simply feel uncomfortable or unprepared to ask these questions.

Unsurprisingly, there is a focus in hospital on sleep and adolescent sleeping patterns (Crowley et al 2007), which often go against a hospital timetable. The YCP asks a number of questions about sleep which appear in both paediatric and adult hospital care plans, including usual bedtime and waking time and ability to fall asleep. Concerns about sleep were more frequently identified by the YCP, but whether these relate to depression or normal adolescent delayed sleep onset is not answerable from the data.

These findings have some limitations. The sample is a relatively small one, although represents a time consuming study and a study where there were a large number of refusals (three for every four approached), with a young person being too unwell to interview, in surgery or undergoing treatment or simply asleep. Despite this, the sample is representative of youth in hospital.

Since the implementation of the YCP in 2005, when it was mandated by the Hospital Executive, there has been a gradual increased uptake of the YCP use on the wards. High staff turnover with lack of awareness and time poor staff have been cited as factors influencing the changeover to the YCP when admitting adolescents.

According to the authors of the HEADSS assessment (Goldenring and Rosen 2004) a psychosocial assessment can generally be done well in around thirty minutes. To achieve a comprehensive assessment in thirty minutes one must be well trained in a HEADSS assessment and adolescent health. The YCP allows any admitting nurse, with little adolescent experience, to collect information from an adolescent at admission. A well-completed YCP is able to give a snapshot of the psychosocial health and wellbeing of a young person and in turn allows the health care professional to assess the balance of health risks and protective behaviours.

Research has found that adolescents are keen and willing to discuss a broad range of health concerns with

health professionals, provided sensitive questions are asked directly and confidentially (Parker et al 2010; Royal Australasian College of Physicians 2008). Health professionals do have a role in health promotion in their clinical interactions with young people (Viner and Macfarlane 2005). There are limited opportunities during an admission for a health professional to undertake a brief psychosocial assessment of a young person. We have shown that the YCP can pick up on psychosocial issues that affect a hospital stay and about which health carers need to know.

Experimentation and risk taking is a normal part of adolescent and youth psychosocial development. In the context of a hospital admission these are important factors to identify, particularly if risk behaviours might have contributed to the admission. The association of depression, drug use and unintentional and intentional injury is one example. Poor adherence to therapy in chronic illness because of depression is another. Having a tool such as the YCP, which can highlight close to 75% of the risks that the young person may be engaged with, and which with education might well increase ascertainment, is essential to providing optimal care. If these risks are not highlighted on admission and appropriate referral and intervention organised, such risks may interfere with the whole admission, wellness, recovery, rehabilitation and possible re admission.

RECOMMENDATIONS

Nurses are often the first clinician a young person meets during a hospitalisation and with their frequent and ongoing contact throughout the hospitalisation they are in a pivotal position to undertake routine psychosocial screening (Rosina et al 2003).

Since the inception of the YCP there have been numerous changes with the general care plan in the hospital and the YCP needs to consider and make changes according to hospital admission policies. The YCP evaluation highlighted at times poor completion of the second page of the YCP. The second page of the YCP contains more sensitive questions and there is a risk that this page is often rushed through. The authors have suggested that encouraging staff to return to these questions at a later time could help with better completion of the form. Also, education with knowing how to ask some of the more sensitive questions to adolescents would also see better completion of the form. Ongoing education for staff who work in acute adult care facilities with regards to adolescent health and development, the risks that these young people undertake and the long-term benefits of identifying these risks on admission to hospital is paramount to effective usage of the YCP.

APPENDIX 1

Home Environment

In a hospital admission it is relevant to identify to where the young person is to be discharged. Living arrangements of adolescents and young adults have been found to be important predictors of health behaviour (Rossow and Rise 1993). Risk was considered if the young person was <18yrs and living alone or >18yrs living alone with no connection to a supportive adult.

Education and Employment

Young people who are not involved in education, training or employment may have fewer opportunities to participate fully in society and are considered to be at greater risk of personal and social stresses, which may impact on their ability to self-manage (Long 2006). Risk was identified if the young person was <18 years and out of school or >18 years with no formal education, training or employment.

Exercise

Physical exercise for young people is important in maintaining cardio-respiratory fitness and positive self-image (Hills et al 2007). Exercise risk was self-report of undertaking physical activity less than two times a week.

Peer-related Activities

These activities improve social competencies and assist individuation from the family of origin, both important to adult functioning (Moody et al 2010; Goldenring and Rosen 2004). Risk was defined as limited peer related activities and/or limited friendship network.

Drugs

Substance use was measured by self-report of tobacco, alcohol and illicit drug use. Tobacco usage is associated with the greatest disease burden in Australia and there is a high correlation of cigarette smoking in adulthood if smoking commences at a young age (Australian Institute for Health and Welfare 2004 and 2006). Tobacco use risk was defined as cigarettes Yes/No. The acute harms of excess adolescent consumption are well documented (Bonomo 2005) and alcohol use risk was defined as underage or early onset and/or binge drinking (>5 standard drinks in one sitting). Illicit drug usage was defined as current usage of any drug.

Sexuality

Risky sexual behaviour was coded if the young person identified as homosexual/bisexual, had multiple partners or was practicing unsafe sex.

Suicide/Depression

Anxiety and depression are the major causes of prevalent years lived with disability in 10-24 year olds and account for the majority of mental disorder disability in females in Australia (Mathews et al 2011). A risk was identified if the young person stated that they suffered from anxiety or depression/low mood for more than six months.

Sleep

Delayed sleep onset is well reported for the adolescent and young adult (Crowley et al 2007). Sleep disorders and deprivation can impact the health and wellbeing outcomes of a young person by reducing their capacity to undertake normal everyday activities (Australian Institute for Health and Welfare 2010). Risk was identified if the young person identified with insomnia or delayed sleep onset that was significant enough to interfere with illness management or routine activities.

REFERENCES

- Australian Institute for Health and Welfare. 2004. *Australia's Health 2004*. Australia.
- Australian Institute for Health and Welfare. 2006. *Young Australians: their health and wellbeing*. Bulletin Number 36. Australia.
- Australian Institute for Health and Welfare. 2010. *Health and Wellbeing of Young Australians: indicator framework and key national indicators*. Bulletin Number 77. Australia.
- Australia. New South Wales Department of Health. 2010. *NSW Youth Health Policy 2011-2016: Healthy bodies, healthy minds, vibrant futures*. NSW Department of Health, North Sydney.
- Bender, B.G. 2006. Risk taking, Depression, Adherence, and Symptom Control in Adolescents and Young Adults with Asthma. *American Journal of Respiratory and Critical Care Medicine*, 173:953-957.
- Bonomo, Y.A. 2005. Adolescent alcohol problems: whose responsibility is it anyway? *Medical Journal of Australia*, 183: 430-432.
- Björvell, C., Thorell-Ekstrand, I. and Wredling, R. 2000. Development of an audit instrument for nursing care plans in the patient records. *British Medical Journal*, 9(1): 6-13.
- Booth, M.L. Knox, S. and Kang, M. 2008. Encounters between adolescents and general practice in Australia. *Journal of Paediatrics and Child Health*, 44:699-705.
- Carr-Gregg, M.R.C., Enderby, K.C. and Grover, S.R. 2003. Risk-taking behaviour of young women in Australia: screening for health-risk behaviours. *Medical Journal of Australia*, 178: 601-604.
- Chown, P., Kang, M., Bennett, D. and Sanci, L. 2004. Adolescent health: Enhancing the skills of General Practitioners in caring for young people from culturally diverse backgrounds. Transcultural Mental Health Centre, and NSW Centre for the Advancement of Adolescent Health: Sydney. Australia.
- Crowley, S.J., Acebo, C. and Carskadon, M.A. 2007. Sleep, circadian rhythms, and delayed phase in adolescence. *Sleep Medicine*, 8(6): 602-612.

- Dieppe, C.R., Kumar, M. and Crome, I. 2008. Adolescent Exploratory Behaviour – What do Trainees know? *Journal of Adolescent Health*, 43: 520-522.
- Goldenring, J. and Rosen, D. 2004. Getting into adolescent heads: an essential update. *Contemporary Pediatrics*, 21(1): 64.
- Hair, E.C., Park, M.J., Ling, T.J. and Moore, K.A. 2009. Risky Behaviours in Late Adolescence: Co-occurrence, Predictors, and Consequences. *Journal of Adolescent Health*, 45:253-261.
- Hills, A.P., King, N.A. and Armstrong, T.P. 2007. The contributions of physical activity and sedentary behaviours to the growth and development of children and adolescents: implications for overweight and obesity. *Sports Medicine*, 37(6): 533-545.
- Irwin, C.E. 2010. Editorial - Young adults are worse off than adolescents. *Journal of Adolescent Health*, 46:405-406.
- Long, M. 2006. How young people are fairing 2006: key indicators. An Update about the learning and work situation of young Australians: Dussldorp Skills Forum. Sydney.
- Mathews, R.R.S., Hall, W.D., Patton, G.C. and Degenhardt, L. 2011. What are the major drivers of prevalent disability burden in young Australians? *Medical Journal of Australia*, 194(5): 232-235.
- Moody, J., Feinberg, M.E., Osgood, D.W. and Gest, S.D. 2010. Mining the Network: Peers and Adolescent Health. *Journal of Adolescent Health*, 47:324-326.
- O'Connell, B., Myers, H., Twigg, D. and Entriken, F. 2000. Documenting and communicating patient care: are nursing care plans redundant? *International Journal of Nursing Practice*, 6(5): 276-280.
- Parker, A., Hetrick, S. and Purcell, R. 2010. Psychosocial assessment of young people: Refining and evaluating a youth friendly assessment interview. *Australian Family Physician*, 39(8): 585-588.
- Rosina, R., Crisp, J. and Steinbeck, K. 2003. Treatment adherence of youth and young adults with and without a chronic illness. *Nursing and Health Sciences*, 5(2): 139-147.
- Rossow, I., and Rise, J. 1993. Living arrangements and health behaviours in adolescence and young adulthood. *Health Education Research*, 8(4): 495-503.
- Sawyer, S.M., Drew, S., Yeo, M.S. and Britto, M.T. 2007. Adolescents with a chronic condition: challenges living, challenges treating. *The Lancet*, 369(9571): 1481-1489.
- Steinbeck, K.S., Brodie, L. and Towns, S. 2007. Transition care for young people with chronic illness. *International Journal of Adolescent Medicine and Health*, 19(3): 295-303.
- Sturrock, T., Masterson, L. and Steinbeck, K. 2007. Adolescent Appropriate Care in an Adult Hospital: The Use of a Youth Care Plan. *Australian Journal of Advanced Nursing*, 24(3): 49-53.
- Suris, J-C., Michaud, P-A., Akre, C. and Sawyer, S.M. 2008. Health risk behaviours in adolescents with chronic conditions. *Pediatrics*, 122(5): 1113-1118.
- Tan, J., Cox, R., Shannon, P. and Payne, D. 2009. Adolescent and young adult health in a children's hospital: Everybody's business. *Journal of Paediatrics and Child Health*, 45:715-719.
- The Royal Australasian College of Physicians. 2008. *Routine Adolescent Psychosocial Health Assessment – Position Statement*.
- Tylee, A., Haller, D.M., Graham, T., Churchill, R. and Sanci, L.A. 2007. Youth-friendly primary-care services: how are we doing and what more needs to be done? *The Lancet*, 369(9572): 1565-1573.
- Van Amstel, L.L., Lafleur, D.L. and Blake, K. 2004. Raising Our HEADSS: Adolescent Psychosocial Documentation in the Emergency Department. *Academic Emergency Medicine*, 11:648-655.
- Viner, R. and Macfarlane, A. 2005. ABC of adolescence: Health Promotion. *British Medical Journal*, 330:527-529.
- World Health Organisation. 2002. *Adolescent friendly health services: an agenda for change*. Geneva: Switzerland.
- Yeo, M.S.M., Bond, L.M. Sawyer, S.M. 2005. Health risk screening in adolescents: room for improvement in a tertiary inpatient setting. *Medical Journal of Australia*. 183(8): 427-429.
- Zink, T.M., Levin, L., Rosenthal, S.L. 2003. Adolescent Risk Behaviour Screening: The Difference Between Patients Who Come in Frequently and Infrequently. *Clinical Paediatrics*. 42(2): 173-180.