Detecting and addressing adolescent issues and concerns

Evaluating the efficacy of a primary care previsit questionnaire

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ABSTRACT

OBJECTIVE To assess the efficacy of a previsit questionnaire (PVQ), implemented without formal training, that was designed to screen for biomedical and psychosocial health issues and concerns among adolescent patients in a hospital-based primary care clinic, and to examine the subsequent action taken for health issues and concerns identified with the PVQ.

DESIGN Retrospective review of adolescent medical charts, using a pre-post design.

SETTING An outpatient primary care clinic located in an urban teaching hospital in Montreal, Que.

PARTICIPANTS A total of 210 adolescent patients aged 13 to 19 who visited the clinic between 2000 and 2004.

MAIN OUTCOME MEASURES The type (medical vs psychosocial) and number of issues detected and actions taken by physicians in one-to-one consultations with adolescent patients 2 years before (2000-2002) and 2 years after (2002-2004) PVQ implementation, as noted in the patients' medical charts.

RESULTS In total, 105 charts were reviewed for each group. An increase in the number of psychosocial issues was detected following the introduction of the PVQ. An increase in the frequency of action taken for psychosocial concerns and a decrease in the frequency of medical action taken by physicians were found after PVQ implementation. More notations related to psychosocial concerns were also found in the adolescents' charts after introduction of the PVQ.

CONCLUSION A PVQ is an effective strategy to improve adolescent screening for psychosocial issues and concerns. Implementing such a questionnaire requires no training and can therefore be easily incorporated into clinical practice.

EDITOR'S KEY POINTS

- Consultations tend to follow a physician-directed, biomedical approach, but research suggests that adolescents prefer a biopsychosocial approach to addressing their concerns. Previsit questionnaires (PVQs) have been proposed as a tool to help overcome this communication barrier.
- Previous research has involved PVQs that required formal training to implement, limiting the likelihood that they would be implemented in busy family practices. This study aimed to explore the effects of implementing a PVQ without formal training.
- Although there was no significant change in the number of issues or diagnoses recorded by physicians after implementation of the PVQ, there was an increase in the number of psychosocial issues without diagnoses recorded, an increase in the number of psychosocial actions taken, and a decrease in the number of medical actions taken, suggesting that the PVQ increased physicians' awareness of psychosocial issues. Further research is required to determine whether this represents an improvement in care for this population.

*Full text is available in English at www.cfp.ca.
This article has been peer reviewed.
Can Fam Physician 2009;55:742-3.e1-4

Détection et prise en charge des problèmes et préoccupations des adolescents

Évaluation de l'efficacité d'un questionnaire pré-consultation en médecine primaire

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RÉSUMÉ

OBJECTIF Déterminer l'efficacité d'un questionnaire pré-consultation (QPC) n'exigeant-pas de formation préalable pour dépister les problèmes de santé biomédicaux et psychosociaux de même que les préoccupations des adolescents qui visitent une clinique de soins primaires intra-hospitalière, et examiner les mesures prises pour répondre aux problèmes de santé et aux préoccupations identifiés par le QPC.

TYPE D'ÉTUDE Revue rétrospective de dossiers médicaux d'adolescents, utilisant un mode avant-après.

CONTEXTE Une clinique externe de soins primaires située dans un hôpital d'enseignement de Montréal (Québec).

PARTICIPANTS Un total de 210 adolescents de 13 à 19 ans ayant visité la clinique entre 2000 et 2004.

PRINCIPAUX PARAMÈTRES ÉTUDIÉS Type (médical vs psychosocial) et nombre de problèmes détectés, et interventions des médecins lors de consultations face-à-face avec l'adolescent effectuées 2 ans avant (2000-2002) et 2 ans après (2002-2004) l'instauration du QPC, tel que noté dans les dossiers des patients.

RÉSULTATS Un total de 105 dossiers ont été examinés dans chaque groupe. Après l'introduction du QPC, on a observé une augmentation du nombre de problèmes psychosociaux détectés et de la fréquence des interventions pour des préoccupations psychosociales, et une diminution de la fréquence des interventions médicales par les médecins. De plus, les dossiers des adolescents contenaient plus de notes en rapport avec des préoccupations psychosociales après l'introduction du QPC.

CONCLUSION Un QPC est une mesure efficace pour améliorer le dépistage chez les adolescents des problèmes et préoccupations d'ordre psychosocial. L'utilisation d'un tel questionnaire n'exige aucune formation et peut donc être facilement incorporée à la pratique clinique.

POINTS DE REPÈRE DU RÉDACTEUR

- Alors que les consultations sont généralement dirigées par le médecin selon une approche biomédicale, les recherches donnent à croire que les adolescents préfèrent une approche bio-psychosociale à leur préoccupations. Des questionnaires pré-consultation (QPC) ont été proposés comme façon de réduire ces problèmes de communication.
- Les recherches antérieures suggéraient des QPC exigeant un formation préalable, ce qui rendait leur utilisation moins probable dans un contexte de médecine familiale déjà débordée. L'étude présente voulait vérifier l'effet d'un QPC ne nécessitant pas de formation.
- Même s'il n'y avait pas de changement significatif du nombre de problèmes ou de diagnostics notés par les médecins après l'instauration du QPC, on observait une augmentation du nombre de problèmes psychosociaux sans diagnostic enregistrés, une augmentation du nombre des interventions psychosociales et une diminution du nombre d'interventions médicales effectuées, ce qui laisse croire que les QPC facilitent la perception des problèmes psychosociaux chez les médecins. Il faudra d'autres études pour déterminer si cela représente une amélioration des soins pour cette population.

***Le texte intégral est accessible en anglais à www.cfp.ca.**

Cet article a fait l'objet d'une révision par des pairs.
Can Fam Physician 2009;55:742-3.e1-4

Adolescence is a time of growth and exploration.[1] Experimentation and efforts to gain independence can lead adolescents to engage in risky behaviour with poor health consequences,[2] which might be preventable through counseling and education from their physicians.

Past research, however, has revealed barriers to communication between physicians and adolescents. Embarrassment and discomfort have been shown to prevent adolescents from disclosing information,[3] and adolescents do not always perceive their regular health care providers to be able to provide confidential care.[4] Adolescents thus do not disclose relevant information fully or do not bring up everything they would like to discuss with their health care providers.[3,5-7]

The approach that a physician takes in a consultation with an adolescent might pose an additional barrier to optimal care. While consultations tend to be physician-directed (eg, physicians ask most questions and guide topics toward biomedical issues),[8] adolescents have been found to prefer a biopsychosocial approach to addressing their concerns,[9] and this mismatch in approaches can lead them to not fully disclose relevant information. Strategies to minimize existing barriers to adolescent-physician communication are needed to promote the identification of adolescent health risks and concerns so that physicians can provide better care for this group.

As one such strategy, researchers have advocated the use of previsit questionnaires (PVQs),[6,8,10] screening tools through which adolescents, before being seen by their physicians, check off and write down biomedical, psychosocial, and behavioural issues that they would like to address in their consultations. To our knowledge, past literature has only looked at the effectiveness of PVQs when combined with formal training on how to use and implement such a screening tool in practice.[11-13] These studies on PVQs with formal training showed benefits to patient care in the form of increased time spent discussing risky behaviour with adolescents,[14] increased detection of risky behaviour,[13,15,16] and increased receipt of preventive services by adolescents,[13] which could translate into more optimal health for adolescents.

In contrast to previous research, our study aims to investigate the efficacy of a PVQ implemented without formal training. If no training is required for the PVQ to improve care, it is more likely that it will be used in busy clinical practice settings.

METHODS

In 2002, a PVQ was implemented in the Teenage Health Unit, an outpatient clinic located in an urban teaching hospital in Montreal, Que. The PVQ was derived in large part from a questionnaire developed by Prazar.[17] Ethics approval for this study was received from the Research Ethics Committee of the Jewish General Hospital.

Using a pre-post design comparing notations in adolescents' medical charts before and after the introduction of the PVQ, we conducted a retrospective chart review looking at the type and number of issues detected by physicians and the type and number of actions taken by the physician for these detected issues. Charts were included for adolescent patients aged 13 to 19 visiting the clinic in the 2 years before the introduction of the PVQ (January 2000 to February 2002) and the 2 years after implementation (March 2002 to April 2004). Charts from the postimplementation group not containing PVQs were excluded (eg, adolescent refused to complete the PVQ, secretary forgot to give the PVQ to the patient).

Adolescent charts were reviewed by 2 coders. Demographic information (age, sex, and postal code) from the adolescent charts was recorded. All medical charts contained standardized summary sheets on which physicians entered their impressions (issues or diagnoses) and their plans (actions taken) for the adolescents' consultations. Information in these 2 sections was coded according to the categories listed in **Table 1**. After all charts were coded, one coder recoded a random 20% of the other coder's charts to determine interrater reliability for the extracted chart data. Cohen κ for recoding of issues or diagnoses was 0.90; for actions taken it was 0.82. The number of issues or diagnoses was coded as a total score for each chart to allow a comparison of the total and mean number of issues or diagnoses in the pre-PVQ and post-PVQ groups. The same was done for the number of actions taken by the physicians.

Issues or diagnoses and actions taken were subsequently organized further into more specific categories to differentiate biologic from psychosocial components of care (**Table 2**). Coding biologic and psychosocial components will illustrate to what extent a biopsychosocial approach to care is being taken by the physicians. This dichotomy was used to first identify the nature of issues being documented by physicians and second to illustrate a change (if any) in the approach to adolescent care with the use of the PVQ. In **Table 2**, the term *medical* is used to account for biologic, physiologic, or genetic determinants of health, and the term *psychosocial* is used to account for those issues relating more to the adolescents' developmental environment (eg, family, personality, behavioural, and environmental factors) and their influence on adolescent health. The variables *psychosocial diagnoses* and *psychosocial symptoms without diagnoses* were each coded as 0 or 1 (eg, whether or not the physician detected a psychosocial issue) in order to allow for a frequency comparison of psychosocial issues detected in the pre-PVQ and post-PVQ groups.

Table 1. Coded data from adolescent charts

ISSUES OR DIAGNOSES	ACTIONS TAKEN
• Medical diagnosis	• Medical test administered or ordered
• Medical symptoms without diagnosis	• Blood workup
• Psychological diagnosis	• Psychological test administered
• Psychological symptoms without diagnosis	• Education or resources given*
• Mix of psychological and medical symptoms without diagnosis*	• Counseling or reassurance given
• Mix of psychological and medical symptoms with diagnosis*	• Return-to-clinic for psychosocial issue
• Depression	• Return-to-clinic for medical issue
• Family issue	• Non-suicide pact
• Behavioural or school issue	• Medical note written*
• Pain	• Prescription or pill given
• Pregnancy	• Referral to psychology
• Sexual health issue (oral contraception, STI screening)*	• Referral to psychiatry
• Eating disorder	• Referral to medical specialist
	• Referral to other health care professional

PVQ—previsit questionnaire, STI—sexually transmitted infection.

*These codes are included in the analyses comparing the number of issues or diagnoses and the number of actions taken between the pre-PVQ and post-PVQ groups but are not included in Table 2 because it was not possible, based on the information in the charts, to differentiate the data into either a medical or psychosocial category.

Table 2. Variables created from coded chart data

ISSUES OR DIAGNOSES				ACTIONS TAKEN	
PSYCHOSOCIAL DIAGNOSES	PSYCHOSOCIAL SYMPTOMS WITHOUT DIAGNOSES	MEDICAL DIAGNOSES	MEDICAL SYMPTOMS WITHOUT DIAGNOSES	PSYCHOSOCIAL ACTIONS	MEDICAL ACTIONS
• Psychological diagnosis • Eating disorder • Depression	• Psychological symptoms without diagnosis • Behavioural or school issue • Family issue	• Medical diagnosis • Pain • Pregnancy	• Medical symptoms without diagnosis	• Psychological test administered • Referral to psychology • Referral to psychiatry • Non-suicide pact • Return to clinic for psychosocial reason	• Medical test administered • Blood workup • Prescription or pill given • Referral to medical specialist • Referral to other health care professional • Return to clinic for medical reason

The same was done for *medical diagnoses* and *medical symptoms without diagnoses.* The variables *psychosocial actions* and *medical actions* were also each coded as 0 or 1 in order to allow for a frequency comparison between groups.

A chart documentation screening strategy called HEADSS (Home, Education, Activities, Depression, Sex, and Suicide), designed as a guide to probe adolescent psychosocial issues,[18] was in place before and after the introduction of the PVQ. To assess whether the PVQ increased the amount of communication about psychosocial issues, the number of HEADSS sections completed by physicians was recorded as a score from 0 (no sections completed) to 6 (all sections completed) for comparison between groups. It was assumed that the issues listed in the PVQ would increase the physicians' awareness of adolescent psychosocial issues and consequently encourage its use as a guide for discussion and chart notations.

Data analysis was performed using SPSS version 14.0. Differences between the pre-PVQ and post-PVQ groups were compared using χ^2 tests and independent-sample *t* tests where appropriate. Statistical significance was set at an α level of .05.

RESULTS

A total of 105 charts from each of the groups was reviewed. That both groups were of equal size is a result of chance, as all charts meeting the inclusion criteria were reviewed. The sex distribution did not differ significantly between groups (pre-PVQ 26% male and 74% female vs post-PVQ 35% male and 65% female). Adolescents in the pre-PVQ group were slightly older (mean 16.77 years, SD 1.50 years) than adolescents in the post-PVQ group (mean 16.31 years, SD 1.57 years) ($P<.04$). Except for sexual health concerns (10 pre-PVQ vs 1 post-PVQ), there were no significant differences between groups regarding the reasons for adolescents' visits to the clinic (**Table 3**).

The number of issues or diagnoses recorded by physicians did not change after the introduction of the PVQ (170 pre-PVQ vs 173 post-PVQ). There was also no

Table 3. Reasons for visits: *Up to 3 reasons per adolescent were extracted from hotline intake sheets; differences between the groups are not significant at P <.05, with the exception of sexual health concerns, P =.05.*

REASON	NO. OF VISITS	
	PRE-PVQ GROUP	POST-PVQ GROUP
Psychological problem (not depression or eating issue)	13	16
Medical problem	12	15
Behavioural or school problem	9	15
Check-up or needs doctor	19	19
Oral contraception, pregnancy, morning-after pill	14	9
Pain	6	4
Depression or suicide	17	24
Eating disorder or eating issues	5	5
Family issues	5	7
Sexual health concerns	10	1
Other	3	4

PVQ—previsit questionnaire.

significant change in the number of actions taken (250 pre-PVQ vs 214 post-PVQ).

Comparisons between groups for issues or diagnoses indicated that there was no difference in the number of psychosocial diagnoses; however, there was a higher number of psychosocial symptoms without diagnoses in the post-PVQ group (54 pre-PVQ vs 79 post-PVQ). It was specifically the behavioural or school issues that increased (4 pre-PVQ vs 12 post-PVQ). No differences were found between groups for medical diagnoses and for medical symptoms without diagnoses.

There was a substantial decrease in the number of medical actions taken: 133 before PVQ implementation compared with 76 after implementation, a decrease of 43%. Also noteworthy is that before the introduction of the PVQ, there were only 28 adolescents for whom no medical action was taken, while there were twice as many adolescents (58) after the introduction of the PVQ who left the clinic with no medical action taken. In particular, after PVQ implementation, fewer medical tests were ordered, fewer prescriptions were written, and fewer adolescents were asked to return to the clinic for further medical investigations. At the same time, the number of psychosocial actions increased by 25% (43 pre-PVQ vs 59 post-PVQ).

Finally, a trend ($P=.07$) toward physicians completing more sections of the HEADSS charts was found after the introduction of the PVQ (post-PVQ mean 5.03, SD 1.60 vs pre-PVQ mean 4.54, SD 2.16).

DISCUSSION

Our results support the use of a PVQ in an urban academic family practice setting as a simple, practical, and effective screening tool in the detection of adolescent problems, as it increases physicians' awareness of psychosocial issues. These findings merit further testing to determine their generalizability across diverse family practice settings. While previous studies have demonstrated the efficacy of such a tool when paired with formal training,[13] our study suggests that the administration of a PVQ shows benefits to adolescent care even without formal training.

Our results suggest that use of the PVQ shifted the framework of adolescent visits from a more biomedical model to a more psychosocial model, as illustrated by greater detection of psychosocial issues by physicians following the introduction of the PVQ; fewer medical actions and more psychosocial actions taken by physicians in the post-PVQ group to manage adolescents' health; and an increase in the number of HEADSS issues recorded in adolescents' charts by physicians in the post-PVQ group.

The increase in provider detection of psychosocial issues in the post-PVQ group might be explained by the PVQ's extensive listing of issues and concerns that informed the adolescents that medical as well as psychosocial concerns are considered relevant and important by health care providers. An adolescents who believes it is appropriate to discuss a topic with a health care provider is more likely to discuss it during the visit.[7] That more discussion of psychosocial issues took place is supported by the increase in psychosocial and HEADSS data recorded in the charts.

It was not surprising that the increase in detection of adolescent psychosocial issues resulted in a subsequent increase in psychosocial actions taken by physicians (eg, psychological tests administered, referral to psychologists) to manage and treat these identified concerns. These increases were not met with an increase in documented psychosocial diagnoses. There might have been a concomitant increase in psychosocial diagnoses noted during the more focused scheduled follow-up sessions; however, this study only looked at chart notations for the initial interviews between adolescents and physicians, and thus this could not be ascertained. Physicians documented more psychosocial concerns and future research could explore a correlation between this and better diagnosis and care.

The finding that there was a substantial decrease in medical action taken by physicians might reflect the ability of the PVQ to unscramble the origin of those presenting complaints that appear physical in nature but that might, in fact, be psychosocial at the root. Adolescents do not always understand the role physicians can play

for their nonbiomedical health issues.[19] The decrease in medical actions taken and increase in psychosocial actions taken in this study suggests that adolescents who completed the PVQ were better able to seek care from their physicians for psychosocial issues. It could be that the PVQ clarifies the roles and responsibilities of physicians in caring for both the biomedical and psychosocial health of adolescents, resulting in adolescents feeling more comfortable and feeling that they have permission to share their psychosocial concerns with their physicians.

The decrease in medical action taken by physicians further suggests that unnecessary medical actions (eg, blood tests, prescriptions) might have been given to the pre-PVQ group for medically recurring problems driven by underlying psychosocial problems that were not being assessed in consultation. In this way, the marked decrease in the number of medical actions taken could point to a possible cost-saving effect and reduced risk of iatrogenic disorders, although it is not easy to quantify this effect.

Limitations

The absence of a control group is the primary limitation of this study. It is thus not possible to establish a causal role for the PVQ. Future research should include a control group in order to establish a causal influence for the use of a PVQ in encouraging physicians to employ a more psychosocial approach to adolescent primary care. Despite an overall skewed sex distribution, we showed that the groups did not differ in their sex distribution. The distribution in our sample could either reflect that more female adolescents make use of our clinic or more female adolescents fill out and leave their PVQs in their charts. Future multisite studies might be helpful in addressing what role sex plays in this context. It should also be noted that the amended PVQ used in this study was not validated, but that validation of this instrument could strengthen the results of future studies. Finally, in order to assess the PVQ's effect on adolescents, future research should monitor patient follow-up in order to evaluate whether the increased psychosocial actions being taken by physicians translate into better health outcomes and whether this is associated with cost savings.

Conclusion

Our study suggests that screening practices in adolescent care can be adapted to better emphasize psychosocial concerns, potentially improving the primary care experience for adolescents and physicians alike. A PVQ seems to be not only an effective strategy to improve screening, but also one that requires no training and can therefore be easily implemented in clinical practice.

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Acknowledgment

Preparation of this manuscript was facilitated by a summer stipend granted by the University of Ottawa. We thank **Vanessa Leo** for helping with data collection.

Contributors

Mr Lewin was involved in the concept and design of the study, collection and coding of data, data analysis and interpretation, and writing and reviewing the manuscript. **Dr Knäuper** was involved in the concept and design of the study, data analysis and interpretation, and writing and reviewing the manuscript. **Ms Roseman** was involved in the collection and coding of data, data analysis, and reviewing the manuscript. **Dr Adler** was involved in the concept and design of the study and reviewing the manuscript. **Dr Malus** was involved in the concept of the study and reviewing the manuscript.

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