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Methodological issues in adolescent health surveys: The case of the Swiss multicenter adolescent survey on health

Summary

In many countries, health care and prevention professionals face serious lack of data regarding health status, health care utilisation and lifestyles of adolescents. With reference to a survey on health and lifestyles of Swiss teenagers 15–20 years old, this paper reviews the different methodological issues linked with the conception and the realization of such a study. The main objective of the so-called "SMASH" project (Swiss Multicentric Adolescent Survey on Health) is, like other similar researches, to gather health indicators; that is, to measure attitudes and behaviour regarding different aspects of health and lifestyles, to identify the perceived health needs of the respondents and to describe their utilisation of health care services. The main issues which are addressed in the paper are related to: 1) the choice of the channel and the instrument to be used (telephone, vs. face-to-face interview vs. self-administered questionnaire; 2) the sampling procedures (pure random vs. cluster school-based samples; size of the sample), 3) the design and the content of the questionnaire (choice of the areas to be covered, selection and wording of the questions); 4) the ethical considerations linked with the collection of data. One of the specificities of SMASH is the inclusion of youth participation at various steps and levels: the design of the questionnaire, the strategies used to gather the data, and the analysis of the results. Two important issues emerge from this review. First, the importance in the future of being able to rely on common indicators that could be used in different countries and settings through the construction of a validated instrument. Second, the fact that most of the surveys conducted in this field neglect several sub-populations of adolescents with special and important needs: handicapped adolescents, drop-outs and recent immigrants coming either as unskilled workers or as refugees. Surveys in such special in-need groups will have to be planned with specific designs, both in terms of content and of approach.

Introduction

In Switzerland, as in other industrialised countries, health planners and health care and prevention workers know from crude data (mortality/morbidity) that the health of adolescents is not improving^{1–5}; however these, face a serious lack of data regarding the health status, health care utilisation and lifestyles of teenagers 15 to 20 years old^{6–10} which could help them when planning health care and prevention. This is why the Federal office for Public Health of Switzerland has requested the Institute of Social and Preventive Medicine in Lausanne to conduct – in close collaboration with other university-based Institutions* – a national survey on adolescent health.

The elaboration of the project design and the organisation of the survey raise a lot of methodological issues involving the characteristics of the population (young people involved in the adolescence process), the environmental conditions and structures, and the research constraints. In this paper, we

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* The Institute for Social and Preventive Medicine of the University Zürich and the school health Service of the City of Bern.

will review some of these issues, with reference to other similar research^{11–22} and will then present the options that were decided upon regarding different aspects of the survey.

Objectives and conceptual frame of the study

The main objective of the so-called “SMASH” (Swiss Multicentric Adolescent Survey on Health) was to gather data on *health indicators*, that would complement the currently available data on mortality and morbidity. The survey had, specifically, to:

- measure attitudes and behaviour regarding different aspects of health (nutrition, sexuality, substance abuse, etc.) as well as some of their correlates.
- identify the perceived health needs of the respondents.
- describe their utilisation of health care services.

This survey has been designed by a collaborating team from the above-

mentioned scientific institutions and the project has been discussed by a committee of experts from various cantons. It has been implemented in each canton by coordinators, in close collaboration with local authorities: education departments, school authorities, etc.

Although earlier studies on adolescent health have mainly focused on attitudes, behaviour or health structure utilisation^{9,11,20}, more and more surveys^{13,17–19} now incorporate issues related to lifestyles, thus recognising that many health behaviours are rooted in the way adolescents live and the quality of their environment^{23–25}. Research on adolescent health has thus shifted from a purely descriptive era to a more comprehensive sociological approach. An emphasis on risky behaviour clustering^{26–28}, gender differences^{29,30}, and the role of family^{31,32} and environment^{33,34} leads to more sophisticated explanatory or predictive models such as those developed by Godin, Bandura or Ajzen and Fischbein^{35–37}, that in turn enable health profes-

sionals to increase the efficiency of their programs.

This is why SMASH had to do more than to collect health indicators (attitudinal, behavioural, socio-demographic etc.). It encompasses other areas (Table 1) that would enable researchers to study the behaviour of Swiss adolescents in relation to their beliefs, their lifestyles and habits (i.e. sport & leisure activities, school performance, earning activity, group attendance etc.) as well as their social networks and environment. In other words, it was hoped that the data would allow – through multivariate analysis – the testing of different hypotheses related to clustering of behaviours, the measure of the respective influence of external (environmental) and internal (psychological) factors on healthy, and so on.

Finally, a large number of surveys conducted among young people are actually designed by adults who often – accidentally or on purpose – ignore the specific characteristics of this age range. In SMASH, researchers encouraged youth parti-

Way of life/health promotion	Physical health	Medical care
<ul style="list-style-type: none"> – eating behavior – sleeping habits – sexual behavior – sports activities – leisure activities 	<ul style="list-style-type: none"> – perceived level of well-being – body image – physical health concerns and needs – functional and psychosomatic symptoms – chronic diseases and disabilities 	<ul style="list-style-type: none"> – contacts with different health professionals – outpatient/hospital care – use of medications
<p>RISK-taking behavior</p> <ul style="list-style-type: none"> – alcohol use – tobacco use – illicit drug use – injury prone behavior – antisocial behavior 	<p>Emotional health</p> <ul style="list-style-type: none"> – worries and concerns – depressiveness – suicidal and self destructive attitudes and thoughts – self esteem – satisfaction with life and future prospects 	<ul style="list-style-type: none"> – need of support – problem solving/coping strategies (i.e. whom to refer to)
<p>Physical and psychosocial environment</p> <ul style="list-style-type: none"> – personal characteristics – family characteristics – sociocultural conditions 	<p>Social support and relationships</p> <ul style="list-style-type: none"> – family relationships – peer relationships – choice of support 	<p>Consequences for everyday life</p> <ul style="list-style-type: none"> – school and work attendance/performance

Table 1. The themes of the SMASH questionnaire.

icipation at various steps: the design of the questionnaire, the strategies used to gather the data, and the analysis of the results. Several avenues and methods are available to assure appropriate participation of young people^{38–41}: these include the use of focus groups^{38–39}, which provide the researcher with general ideas on what should be included under several aspects of health (conceptual basis of the survey), as well as practical items (when preparing the questionnaire) and finally comments on the wording of specific questions. Also, young people can interact with adults through specific strategies (for instance narrative research, or the grid method developed by the World Health Organisation^{40–41}) and thus bring their own input into the study. The way adolescent participation was assured in this survey will be described later.

Data collection: Which kind of instrument to choose?

The choice of a survey method depends mainly on general and local criteria⁴². General criteria are mainly related to the objectives of the survey (type and amount of information to be collected) and the characteristics of the target population. Local criteria deal with the geographical and structural context, and resource availability. The *face-to-face interview* has been used in several household surveys, both in Canada and the United States^{43–45}. These surveys very often include teenagers who are interviewed at home by skilled professionals. The interview may include both the parents and their adolescent child, or the teenager only. Although this method allows a great deal of flexibility (particularly regarding the understanding of the questions), it is very expensive and time-consuming, especially if the population that has to be screened is geographically scattered. The

setting where the interviews are done can influence the answers. Moreover, when intimate matters like sex life or substance abuse are discussed, the face-to-face situation may interfere with the validity of the answers and thus introduce severe bias^{46–48}. One way to diminish the costs and the energy linked with the face-to-face interview is to use the *telephone*⁴⁹. As far as adolescents are concerned, this method is not suitable since teenagers, especially if they are drop-outs, are often difficult to reach. This is why these surveys have rarely been used within this population group. In a survey conducted in Alameda County (California), this problem seems to have been overcome: indeed, the comparison of two samples of teenagers, one reached by telephone and the other through a household survey, has proved to be comparable, in spite of there being a significant number of non-respondents. However, even if adolescents seem more at ease when answering intimate questions on the telephone than in a face-to-face interview, the non-respondent rate is significantly higher⁵⁰. Some strategies (like advance information by letter) can increase the acceptance rate in telephone surveys, as was proved in a national survey of sexual behaviour of people aged 18 to 69 years in France⁵¹.

Given these difficulties, many researchers rely on *self-administered questionnaires* for data collecting among young people. The self-administered questionnaire allows the gathering of many and various data in different fields, and is usually confidential or anonymous, thus protecting the intimacy of the respondent. Moreover, it can be distributed in large samples, in a short period of time, without great expense, and it usually alleviates the potential bias linked with the interviewer's reactions and perceptions⁵². The most important problem that has to be overcome with

this approach is its "rigidity"; that is to say that the questions are not adaptable to the individual characteristics of every participant. So it may not be appropriate or understandable for different sub-groups (younger versus older adolescents, handicapped teenagers, immigrant youngsters, etc.).

Self-administered questionnaires can be distributed through several channels and in different ways:

- Firstly, one may still want to keep the household survey method and gather data at home, giving the questionnaire to the adolescent personally and collecting it back immediately. Although this method may improve the participation rate and allow better representativity of the sample, it is as demanding as the face-to-face interview in terms of costs, energy and staff requirement. Usually, this method of distribution is paired with face-to-face interviews, with the questionnaire dealing with the most sensitive areas^{53–55}.

- Secondly, questionnaires can be sent by post. This method is theoretically interesting, because it is very inexpensive and also allows a rigorous sampling approach (see below). However, the non-response rate is usually very high – especially for adolescents – unless a strict follow-up with several reminders is set up: thus one may end up with a highly biased sample. In fact, this procedure has seldom been used for large surveys.

For a lot of surveys among special groups or in special settings, practical problems and economic restrictions can be overcome by the distribution of questionnaires within clusters, such as blocks, villages or classrooms. Thus, many surveys have been conducted in the school system. Distribution of questionnaires within classes in a fast and efficient way to proceed. As long as the distribution is effected under proper conditions, if possible by neutral persons (not belonging to

the usual school staff), with adequate explanations and a sufficient amount of time, the answer rate among adolescents is usually very high. Many individuals can be reached in a short period of time, whether all the classes of a given level in a region can be included^{54–57} or a sample of classes is chosen^{58–62}.

The choices that were made

Considering the different options, and the limitations imposed by the available resources, the method of anonymous self-administered questionnaires was selected for the gathering of the data of SMASH. It allowed the researchers to reach their methodological objectives, to get in touch with many young people (an approximate number of 10000 teenagers was expected), and finally to compare their results with those of other surveys organised in a similar fashion^{12–22}. Between the ages of 15 and 20, many Swiss adolescents, including those from low income and immigrant families, are still at school, either attending for one day a week (apprentices), or full time (senior high school students). The existing network of local public health authorities and school medical staff in every canton was of great importance in the process. The main problem with this approach is that it does not include teenagers who have left school, particularly “drop-outs” who are often reluctant to cooperate; indeed, other methods have to be found to reach such young people^{63–67}.

Sampling procedures, sample

From the beginning, it was hoped that the survey would cover all parts of Switzerland and would include a representative sample of individuals 15 to 20 years old. Selection of subjects had to ensure that the findings could be gener-

alized for the target population, and allow for comparisons between different groups of the population: girls versus boys; apprentices versus students; German- versus French-speaking teenagers; urban versus rural young people.

Size of the sample

Although most of the topics to be covered concerned the majority of the respondents (feelings about the future, family life, health structure utilisation, sex life etc.), many important items were limited to a small percentage of the total of the respondents: nutrition disorders, teenage pregnancy, sexual assaults, antisocial behaviour, drug abuse, etc. Thus, the size of the sample had to be sufficient to have a proper estimate of those types of behaviour. A sample size of 3000 young people would allow an estimate of 2% prevalence with a confidence interval of ± 0.005 . The need for regional, as well as male and female indicators led us to collect data on around 10000 teenagers split proportionally into 3 regional populations: 3500 from the French-speaking part of Switzerland, 6000 from the German-speaking part and 800 from the Italian-speaking part.

Selection of the sample

School-based adolescent health surveys very often use a cluster sampling procedure^{11–19}. It is well known that convenient sampling introduces a bias of representativeness⁵⁹. To avoid selection bias, the required number of classes was randomly selected from a data base of all the classes from the different schools^{59–62}. Because of the distinctive regional and cantonal features, one-step cluster sampling was used, selecting classes as the sampling unit^{11–14,19,62}. All public secondary, technical and apprentice schools serving those aged 15–20 were involved.

Compared with pure random selection, random cluster sampling leads to certain disadvantages that are not usually considered, the most important of which is that it diminishes the precision of the estimates. However, this problem was overcome by the great number of clusters in the specific population we were sampling. Clustering or design effect tends to raise the standard error on different measures because, within the same group, classmates have similar characteristics⁵⁹. However, the classes are rather small groups (15–20 pupils), and pupils in the same class are

	Apprentices	Students	Total
Census (1992: 15–19 years)*	185.974 (73 %)	67.211 (27 %)	253.185
Reference population (lists available)	115.119 (65 %)	61.248 (35 %)	176.367
Selected sample	6.402 (62 %)	3.965 (38 %)	10.367
Questionnaires included	5.944 (64 %)	3.32 (36 %)	9.268

* Source: Swiss Federal Office for Statistics

Table 2. Comparison of the census with the sample.

	Apprentices girls N = 2164 %	Apprentices boys N = 3780 %	high school girls N = 1829 %	high school boys N = 1495 %	All N = 9268 %
Age					
15–16 years	16.4	18.0	31.8	28.9	29.3
17 years	31.6	29.8	29.7	26.8	31.0
18 years	29.7	28.7	22.2	27.7	24.1
19–20 years	22.3	23.6	16.3	16.7	15.6
Nationality					
Swiss	75.6	76.4	78.0	75.3	70.2
foreign	24.4	23.6	22.0	24.7	20.7
Home					
urban area	41.9	40.4	46.9	52.2	50.4
rural area	58.1	59.6	53.1	47.8	49.6
Family situation					
parents together	79.6	81.6	83.3	83.2	50.4
parents divorced/sep.	20.4	18.4	16.7	16.8	49.6

Table 3. Main characteristics of the sample.

quite different in terms of socio-economic backgrounds, living habits and other health-related characteristics, so this effect is in fact reduced.

Sampling *stratification* was performed to reduce this clustering effect and improve the representativity of the sample. Three stratification criteria were chosen for their presumed links with health behaviour: professional curriculum, school level and canton. For the first one, we used the traditional distinction of long course college (pre-university), short course college, and seven apprenticeship groups, based on previous research⁶⁸. This stratification allows a better spread of the sample within the different sub-groups of the target population.

Table 2 shows the results of this process: although a database was made up of lists of all existing classes in each canton (provided by the

cantonal authorities), a comparison made with the 1992 census** shows that the reference population that was built from these lists of classes represents roughly two third of the general population, and that the proportion of students is higher in the SMASH sample than in this general “census” population. The quantitative differences between the population and the sample is probably due to the non-participation of three German-speaking cantons, and to some of the apprentices and students studying in private schools or other settings. It is more difficult to explain the qualitative difference (i.e. difference in the rate of students and apprentices). It could be attributed to the evaluation of the number of pupils (given by the cantonal authorities) which was better for students than for apprentices (variability between classes and changes occurring during the school year being greater in apprentices’ schools than in the others). Finally, the difference between the calculated sample and the final sample

(analysed questionnaires) is linked with an absenteeism of around 5% and with non-inclusion of some questionnaires. Most of these (5%) were from people not within the age range (<15 years/>20 years); a few were incoherent/non-usable (0.7% only!). All the questionnaires were read and quality was quoted for each one, taking into account the responses and the commentary added by the respondent. Drug abuse questions were used to select the incoherent questionnaires. Table 3 shows the main characteristics of the final sample.

The design and the content of the questionnaire

Selection of the area of interest

The purpose of many of the surveys already mentioned^{12,14,17,19} was to collect information that would help health professionals to plan adequate health care, as well as to design prevention programs in a more specific and adapted way.

** Office fédéral de la statistique, 1993.

Thus, many of them include items on risk-taking behaviour⁶⁹, which, even if it does not affect many adolescents, represents a potential source of distress and morbidity later on, in adult life (like sexually transmitted disease, substance abuse or accident-related handicaps). Moreover, a health promotion perspective calls for broader information useful for the planning process.

The present study has been carried out on similar lines. As already stated in the chapter describing the frame of the study, the questionnaire was to focus not only on health attitudes and behaviours but also on lifestyles and psychological characteristics of the subjects, thus providing on the one hand behavioural indicators (substance use, sex life etc.) and on the other hand, variables related to lifestyles, perceptions, well-being, self image etc. The selection that was finally made is summarised in Table 1.

Design of the questionnaire

Most of the questions that are used in health survey among adolescents are prepared "de novo" by the adults in charge of the research, then pre-tested and reformulated for use in the final version. Most of them, as far as we know, are developed in an empirical manner: researchers do not perform the different operations that assure the consistency and the reliability of the questions^{33,39,63–65}. The same applies to SMASH; however, to increase the comparability of this survey with others, and to increase the acceptability and the quality of the questions, the questionnaire was developed along a sophisticated manner that included:

- the preparation of a database of all the questions used in other similar surveys
- the sorting of these questions into the different areas to be covered by the survey (Table 1).

- the organisation of a three-day workshop that brought together professionals from various fields (psychologists, socio-anthropologists, teachers, nurses, physicians and social workers) and the same number of young people from different backgrounds (apprentices, students and "drop-outs"), working in focus-groups³⁸. A focus-group provides an opportunity to discuss topics related to the experience of the people attending, under the guidance of a moderator. In our case, as the main themes to be covered had been chosen, the groups were primarily concerned with the final selection of the questions and their wording, taking into account the reactions and vocabulary of the adolescents themselves. Several groups worked on specific fields according to their interests.

- a first draft of the questionnaire was submitted to representatives from parents' organisations and experts on bioethics. The questionnaire was then pre-tested in several different classes in all the participating French-Speaking cantons.

The final version included a core questionnaire of 87 questions, as well as four modules, randomly distributed throughout the sample (this means that 25% of the total sample answered each module). Two modules focused on specific in-depth questions regarding: 1) nutrition and sex life 2) substance abuse. In the French-speaking cantons, two others included psychological, validated scales on self-image, coping behaviour and family life^{***}. In the German version, one module included questions on self-image and coping strategies, derived from another psychological test^{****}, as well as a module focusing on dietary habits^{*****}.

The questionnaire was first developed in French, as the survey had originally been planned to take place in the French-speaking cantons. When it was decided that the survey had to take place in all three

regions of Switzerland, it was translated into German and Italian by professionals who were bilingual. The questionnaire was then re-submitted to groups of teenagers and professionals, to assure that the wording was adequate, and then pre-tested and further modified according to the comments that were made by pupils. Minor changes did indeed have to be made in some questions, because of cultural differences (for instance the type of youth groups which adolescents belong to). One of the ways to ensure quality of translation is to ask people to translate back the new version in the original language³⁹: this is a very time-consuming task which, although essential when setting up a test, was not considered in the case of SMASH for practical reasons.

Quality of the answers

A detail discussion of validity (that is: do the questions measure what they are supposed to measure?) and reliability (that is: consistency of the answers over time) of self-reported data on adolescent health is beyond the scope of this paper⁶⁵. It is noteworthy that his problem has been addressed in the literature only for certain special themes such as substance abuse, sex behaviour related to AIDS, or developmental health^{66,67,70–75}. As far as we know, few questionnaires (even in large surveys) have been validated as unified instruments. A recent study describes the development and testing of a comprehensive instrument for assessing the health of individuals aged 11 through 17; such an instrument could be of great interest for the future³⁹.

*** A quoi je ressemble. SUPEA; 3.4.1991. Adaptation, française de S. Harter "What I am like". Moi, mes amis, ma famille. SUPEA 4.1990. Adaptation française du questionnaire SS-A de A. Vaux, USA.

**** A. Flammer & A.I. Psychologisches Institut, Université de Berne.

***** Mis au point et validé par des collaborateurs du Centre de recherche Nestlé, Vers-chez-les-Blancs.

Quality of the answers often depends on the wording of the question^{39,75}, which should be as neutral as possible. One simple way to measure the internal consistency of questions is to compare the results for questions dealing with the same topic, but placed in different locations within the questionnaire: this was done in our survey in areas such as substance use and sex behaviour, and the consistency of the responses was perfect from 95% of the respondents. The low non-response rates obtained for most of the questions (3–5%) in our questionnaire confirm their validity, because the higher the response rate, the higher the coverage of the population and the lower the standard error of estimates. Moreover, all the completed questionnaires were read, and questionnaires were excluded if responses were considered to be non-acceptable. We used drug abuse as a detector: a trick drug name allowed us to detect liars and to exclude their questionnaires. As a conclusion, and in the absence of external validation, the fact that the results that were obtained in fields like substance abuse and sex life are quite comparable with those obtained in other surveys and databases^{19,76–78} is evidence for the quality of the answers.

Social desirability can also affect the quality of the answers. Especially with topics in the news, like AIDS or smoking habits, adolescents may give the socially expected answers^{79–81}.

Although it is not possible to overcome this problem completely, the way the study and the questionnaire were presented to the respondents (see below) could have reduced this source of bias.

Data collection: practical and ethical considerations

Adults responsible for the dispatching of the questionnaires were either not in the school-system or were people not involved in educational activities, such as school nurses or counsellors. All these people had been given training about the objectives of the study and the layout of the questionnaire, in order: 1. to give the aims and methods in a neutral and standardised ways; 2. to avoid bias linked with their own perceptions and personality; 3. to motivate teenagers to answer as honestly as possible.

The implementation of a health survey among adolescent pupils raises several ethical issues^{82–84}:

– As far as possible, the questionnaire should be totally confi-

dential or anonymous: in the case of SMASH, the questionnaire was totally anonymous. It was sealed in an envelope by the respondent and removed from the classroom by the person in charge.

– Secondly, the participants should be entirely free to participate or not⁸³: in this survey, they were told that their participation and answers were completely voluntary.

– Thirdly, all the involved students should, in our opinion, be offered feed-back about the results: this principle is not only ethically sound; it also increases the enthusiasm of the pupils for participation. In this survey, all the schools received a four-page summary of the main results of the study 6–8 months later to be publicised in the school.

– Finally, questions dealing with intimate areas like sexuality, suicidal conduct or depression may give rise to preoccupations on the part of the respondents: the persons in charge of distributing the questionnaire had received instructions and were able to provide pupils with the names of key persons or institutions to whom they could apply for help^{83–84}.

All these precautions explain why we attained a very high response rate from the adolescents present on the day the questionnaire was dispatched (Table 4).

Evaluation of the number of students in the selected sample	10 367	
Students on the class lists who completed the survey	10 338	
Students absent on the day the survey was given	575	6%
Refusal	8	0.1%
Collected questionnaires	9755	
Excluded questionnaires:		
unacceptable responses	69	0.7%
bad consistency, especially for drug abuse	56	0.6%
out of the age range 15–20	364	3.7%
Usable questionnaires	9268	

Table 4. Response rates and final sample.

Conclusion

The survey was well accepted both by the authorities and by the adolescents themselves. In particular, we did not receive any complaints from parents' associations or other groups in connection with the survey. A key point of this survey is that the "federative" procedure, linked with the acceptance of the research by cantonal/local/school authorities, as well as the distribution of the questionnaire by

local teams, led the researchers to develop a real network: professionals from various backgrounds were recruited in each canton to organise the survey locally. We think that this network will last, and that the participating professionals have been made more aware of the situation and may benefit from their participation in the study when considering changes in their activities for adolescent health⁸⁵.

For the researchers, one of the main concerns is that the method used excluded several sub-populations of adolescents with special and important needs: handicapped adolescents, drop-outs, and recent immigrants coming in either as unskilled workers or as refugees. Surveys in such special in-need groups have to be planned with specific designs, both in terms of content and approach⁸⁶.

Zusammenfassung

Methodologische Probleme bei Gesundheitsbefragungen von Jugendlichen: Das Beispiel über die Gesundheit Jugendlicher in der Schweiz

In vielen Ländern fehlen den im Bereich der Pflege und der Prävention tätigen Berufsleuten Daten, auf die sie sich bei der Ausarbeitung ihrer Politik stützen können. Dieser Artikel beschreibt, am Beispiel einer Studie über Gesundheit und Lebensgewohnheiten der Schweizer Jugendlichen im Alter von 15 bis 20 Jahren die methodologischen Probleme, die mit der Entwicklung und Durchführung solcher Studien einhergehen. Ziel der „SMASH“ (Swiss Multicentric Adolescent Survey on Health) ist es, brauchbare Gesundheitsindikatoren zu sammeln: Einstellungen und Verhalten bezüglich der Gesundheit und den Lebensgewohnheiten, Wahrnehmung der Bedürfnisse und Inanspruchnahme der Angebote im Pflegesystem. Die wichtigsten Bereiche, die im Artikel untersucht werden sind: 1) Auswahl der Verteilungswege und des Instrumentes zur Datensammlung (Telefon versus Interview versus Fragebogen); 2) Erstellung der Stichprobe (Zufallsstichprobe versus Klumpenstichprobe, Grösse der Stichprobe); 3) Design und Inhalt des Fragebogens (Auswahl der Bereiche, die gedeckt werden sollten, Formulierung der Fragen); 4) Ethische Erwägungen, die bei der Ausarbeitung einer solchen Befragung betrachtet werden müssen. Eine Besonderheit der SMASH ist die wohlüberlegte Wahl, Jugendlichen bei jeder Etappe der Befragung miteinzubeziehen (Design des Fragebogens, Verteilungsstrategien, Analyse der Ergebnisse). Zwei wichtige Probleme bleiben oft bei dieser Art von Befragung nicht gelöst. Einerseits fehlt es an einer Übereinstimmung bei der Auswahl der relevanten Indikatoren und der Instrumente, die internationale und wissenschaftlich zuverlässige Vergleiche zulassen. Andererseits besteht die Schwierigkeit, Untergruppen wie Migranten, junge Behinderte oder Jugendliche aus Randgruppen, die sehr spezifische Charakteristika und Bedürfnisse haben, in die Studie einzubeziehen.

Résumé**Les questions méthodologiques posées par les enquêtes sur la santé des adolescents: L'exemple de l'enquête suisse sur la santé des adolescents**

Dans beaucoup de pays, les professionnels chargés des soins et des activités de prévention auprès des jeunes manquent de données sur lesquelles s'appuyer dans l'élaboration de leurs politiques. En prenant comme exemple une étude sur la santé et les styles de vie des jeunes suisses de 15 à 20 ans, cet article passe en revue les problèmes méthodologiques liés à la conception et à la réalisation de ce type de recherche. Les objectifs de "SMASH" (Swiss Multicentric Adolescent Survey on Health) sont de recueillir des indicateurs de santé pertinents, attitudes et comportements en matière de santé et de styles de vie, perception des besoins et utilisation des systèmes de soins. Les principaux domaines explorés dans l'article sont: 1) le choix du canal et de l'instrument de récolte des données (téléphone vs. interview vs. questionnaire), 2) les procédures d'échantillonnage (aléatoire vs. par grappe, taille de l'échantillon), 3) le design et le contenu du questionnaire (choix des domaines à couvrir, énoncé des questions), 4) les considérations éthiques liées à la mise sur pied de ce type d'enquête. L'une des spécificités de SMASH est le choix délibéré d'impliquer les jeunes eux-mêmes à chaque étape de l'enquête (design du questionnaire, stratégies de distribution, analyse des résultats). Deux problèmes importants restent bien souvent non résolus dans ce type de recherche: d'une part l'absence d'un véritable consensus sur le choix des indicateurs les plus pertinents et d'instruments dûment validés pouvant servir à des comparaisons internationales solides scientifiquement et d'autre part la difficulté d'atteindre des sous-groupes de jeunes présentant des caractéristiques et des besoins bien spécifiques, comme les migrants, les jeunes handicapés ou encore les marginaux.

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