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Research

Adolescent Interviews for the Bio-Psycho-Social Model in a Community Pediatric Clinic

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Abstract

It is well known that adolescents often have health problems, but the actual involvement of health care is not easy, partly because adolescents tend to shy away from medical institutions. Some medical institutions specialize in adolescent care, but many children are in need of medical intervention. In this study, 584 children between the ages of 11 and 18 who visited 14 local clinics were asked to fill out a simple questionnaire, which was then used to talk to the children regardless of the reason for their visit. 93.3% of the respondents found the questionnaire useful, and 88.0% found it useful in five minutes or less. In 93.3% of the cases, the questionnaire was useful, and 88.0% of the respondents reported that they were able to conduct the interview in a short time, less than five minutes. Most of the clinics were positive about this approach.

Keywords: Adolescent, interview, pediatric clinic, bio-psycho-social model

Introduction

If we define adolescence as the period between the ages of 10 and 18, there are approximately 9 million children in our country [1]. Since many of these children attend elementary, junior high, and high school, their health management is based on school medical examinations [2]. In terms of medical care, adolescents in elementary school are most likely to visit a pediatrician, but for junior and senior high school students, the decision of whether to visit a pediatrician or an internist varies depending on the region and circumstances.

Many pediatric medical centers, which are classified as secondary or tertiary care institutions, require children to be 15 years old or younger for their first visit, although this may vary by department. This makes it difficult for high school students, for example, to know where to go to see a doctor. They are unlikely to go to the doctor's office easily and often do not have a relationship with the doctor that would motivate them to seek medical attention.

On the other hand, in the United States, for example, nearly 20% of adolescents under the age of 18 are reported to be children with special health care needs [3]. Such surveys have been conducted in Japan, but no results are available, so the actual situation is unknown. Recently, there has been a lot of media coverage of the health of adolescents, which suggests that there are many children who need support, but the role of medical care as a social resource is still unclear.

Under these circumstances, it is unlikely that adolescents themselves would voluntarily visit primary medical institutions centering on general pediatricians, and even when they did, they would mainly respond to physical complaints, and this was basically the same in the field of school health checkups as well as general complaints [4].

In 1977, American psychiatrist George Engel proposed the bio-psycho-social model (BPS model), which is a holistic medical examination that considers the psychological and social background that may underlie the main complaint, even if it is a physical complaint, which is not limited to adolescents. [5], the idea is becoming more and more popular internationally. Even when adolescents finally pass through a medical institution with a chief complaint, the institution may not yet be accustomed to a system of care that looks at the whole picture.

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When adolescents visit a medical institution, it is necessary to consider not only the main physical complaints but also the psychological and social problems behind them.

If it becomes possible to conduct interviews with adolescents in community pediatric clinics, taking into account the BPS model, medical institutions may become an accessible social resource for adolescents in our country. With the ultimate goal of creating such a system, we conducted a pilot study of a simple questionnaire-based interview with the help of doctors in a community pediatric clinic, with the BPS model in mind, and we report an overview of the study.

Subjects and Methods

The author asked for the cooperation of 15 physicians who were available, and 14 physicians, excluding one who declined for health reasons, cooperated in this study. All the doctors were in the 11 prefectures of Japan, mainly in their 60s, with 10 males and 4 females in pediatrics as their main departments. We obtained an understanding of the BPS model by reading the questionnaire and the explanation of the BPS model based on the questionnaire [6] before the survey.

The survey period was from July 20 to August 30, 2019. We conducted the survey from July 20 to August 30, 2019, with the help of a questionnaire and an interview with the children who visited the cooperating clinic during the above period, including children who were not attending school or free school. When explanations to parents were required, a document [7] was distributed.

3) Questionnaire development: To develop the questionnaires for the children, questions 1 and 2 were sent to Bright Futures [8], question 5 to Understood [9], question 7 to David Morgan Education [10], and question 9 to Numerous [11]. Question 15 was developed with reference to the paper by Richard Aukett et al. [12], and the others were developed with reference to the HBSC (Health Behavior in School-age Children) questionnaire by WHO-Euro [13].

The children who cooperated were given the questionnaire shown in Table 1 and asked to fill in the questionnaire, and the results of the questionnaire were reviewed during the examination. After the examination, the children were asked to fill out the post-interview questionnaire as shown in Table 2. The author was asked to send the questionnaires to the children after the survey period and to answer the post-survey questionnaire [14], which asked for their impressions of the survey as a whole.

The author entered the author's age, gender, and information on the medical institutions where the children were examined, the results of the children's questionnaire, and the post-interview questionnaire into Microsoft Excel 2013 and deleted all other personal information.

Table 1: Questionnaire conducted.

Recent Mood and Life Survey
What is your favorite food ( )?
1. Do you have a smartphone for yourself? 1) Yes, 2) No, 3) I don't know.
2. Do you eat with your family? 1) Yes, 2) No, 3) I don't know.
3. Do you like school? 1) Yes, 2) No, 3) I don't know.
4. Is schoolwork a burden on you? 1) Yes, 2) No, 3) I don't know.
5. Have you ever found it difficult to listen to your teachers or friends at school? 1) Yes, 2) No, 3) I don't know.
6. Is your health status "good" or "fair"? 1) Yes, 2) No, 3) I don't know.
7. Have you ever found it difficult to read a textbook or blackboard? 1) Yes, 2) No, 3) I don't know.
8. Are you very satisfied with your current life? 1) Yes, 2) No, 3) I don't know.
9. Do you tend to fall or lose your balance when walking or running? 1) Yes, 2) No, 3) I don't know.
10. Do you sometimes have a tummy ache? 1) Yes, 2) No, 3) I don't know.
11. Do you have trouble sleeping at least once a week? 1) Yes, 2) No, 3) I don't know.
12. Do you feel that you are too heavy or too fat? 1) Yes, 2) No, 3) I don't know.
13. Do you exercise for 60 minutes or more every day? 1) Yes, 2) No, 3) I don't know.
14. Does it feel good to get up in the morning? 1) Yes, 2) No, 3) I don't know.
15. Do you have more friends of the opposite sex than friends of the same sex? 1) Yes, 2) No, 3) I don't know.

Table 2: Questionnaires collected from physicians in combination with individual questionnaires Post-interview questionnaire with children.

Post-interview questionnaire with children
Place of interview (clinic, school, etc.)
Is your child a student at the school where he or she is a school doctor? (1) Yes (2) No (3) I don't know
How often do you get to meet this child? First time, second time, many times.
Reasons for the consultation: (1) Acute illness, (2) Chronic illness, (3) Indefinite complaints, (4) Vaccinations, (5) Others
Interview Was your child able to fill out the questionnaire? (1) Yes (2) No
Did your child fill out the questionnaire in about 3 minutes or less? (1) Yes (2) No (3) I don't know
What was the number of the question with the answer you were interested in?
Were the survey items useful for your interview? (1) Yes (2) No (3) I don't know
Approximately how long was the interview (minutes)?
How was your child's reaction?
Did you feel that your child might come to you for consultation again? (1) Yes (2) No (3) I don't know
Do you think these attempts are useful for interviewing adolescents? (1) Yes (2) No (3) I don't know

Ethical considerations

When interviewing children at each medical institution, we asked them individually whether or not they were allowed to be interviewed, and we analyzed the children who gave their consent. The three children who did not give their consent were not included in the study results.

Results

A total of 586 questionnaires and post-interview questionnaires were collected for a total of 586 pairs of children. Of these, 584 pairs (584 in number) were included in the study, excluding the two pairs whose age and gender were unknown. Table 3 shows the breakdown of age and gender. Clinic visits were less common after high school.

The responses from the children did not differ significantly from the previous reports, but there was a tendency to respond to questions 5, 7, 9, and 11 in one direction, with 15 respondents saying they did not know, and free entries.

A total of 564 children (96.6%) mentioned their first favorite food, and more than 50 responses were curry, fried chicken, sushi, meat and ramen. Mother's food was also mentioned in 7 cases.

Table 3: Number of Children and Students Targeted

	Male	Female	Total
Fifth Grade	55	58	116
Six Grade	77	74	151
Seventh Grade	51	42	93
Eight Grade	34	35	69
Ninth Grade	30	29	59
High School Freshman	13	20	33
High School	17	16	33
High School	12	18	30
Total	292	292	584

(Unite Person)

Table 4 shows how many times the subject children had been to the clinic and Table 5 shows the reasons for the visit. Fewer than 7.7% of the children received the questionnaire at the first visit, and the majority (78.5%) had been to the clinic many times. Chronic illness was the most common reason for the visit, followed by acute illness, although 19.1% were interviewed at the time of immunization. Some children were seen for indefinite complaints.

Table 4: Number of Visits

The First Visit	7.7
The Second Visit	6.4
Frequent Visitor	78.5

(Units %)

Table 5: Reasons of the Visits

Acute Diseases	33.3
Diseases	36.1
Complaints	3.7
Vaccination	19.1
Others	9.5

(Units %)

The results of the post-interview questionnaire, shown in Table 6, showed that almost all of the children completed the questionnaire, with the majority completing it within three minutes.

A total of 527 responses (93.3%) indicated that the questionnaire items were useful for the interviews, and 506 (87.8%)
felt that they might come back for more. Five hundred thirty-three (92.7%) indicated that these attempts were useful or not. In the actual interviews, 532 (92.7%) of the respondents said that the children talked to them.

Table 6: Post Interview Questionnaire

Post Interview	Yes	No	I don't know
Fill out the questionnaire	99.3	0.7	-
Within 3 minutes of filling the form	95.8	3.7	0.5
Was the item helpful	93.3	1.4	5.3
They might come back	87.8	1.6	10.6
Are these attempts useful?	92.7	0.3	6.9
	Told me	It is boring	others
How does the children react?	92.7	4.1	3.7

(Units %)

The length of the interview was not listed in the table, but of the 571 respondents who stated it, 57.4% said it lasted less than 3 minutes, 30.6% said it lasted less than 5 minutes (88.0% when combined with 3 minutes or less), 5.9% said it lasted less than 10 minutes and 5.7% said it lasted more than 10 minutes.
In the interview, the most common questionnaire items that the physician in charge of the children responded to as a concern were 146 abdominal pains, 97 not being able to get up in the morning, 87 too much weight, 81 study burden, and 74 not liking school. Fewer children responded that they were bothered by questions 5, 7, 9, and 11, which had a bias in the results of the children's earlier responses, and the same was true of question 15, which had a high number of "I don't know" responses from the children.

Table 7 shows the results of the responses throughout the entirety of the questionnaire and other responses requested at the time of return of the questionnaire and other materials; 11 people filled out the questionnaire, and the number of people in each is shown. Regarding the clarity and content of the questionnaire, 10 respondents found the questionnaire easy to understand, 1 respondent found it to be undecided, 9 respondents found it to be appropriate, and 2 respondents did not respond to the questionnaire. Nine respondents answered the questionnaire in less than three minutes and two responded in varying amounts.

Regarding items that were not shown in the table but might have been unnecessary, one respondent pointed out each of the following three items: 5. Difficulty in hearing speech, 9. Easy to fall down, and 15. More friends of the opposite sex than of the same sex.

One respondent each mentioned "problems", "relationship with classmates", and "sleeping hours" as items that they wished they had, and the item "10. sometimes painful tummy" suggested that it would be better to include all the complaints as "tummy etc.", and the item "13. exercise for 60 minutes or more every day" was pointed out by one respondent. In the "ka" category, many third-year junior high school students had retired from club activities during the summer holidays when the survey was conducted, and some respondents suggested that "three or more days a week" or "more than one day a week" would be sufficient.

Overall, nine respondents said that the interview took no more than five minutes, and two said it was scattered. Ten respondents answered that the interview was easy, one respondent said it was easy, one respondent said it was undecided, seven responded that the questionnaire was useful, and four responded that it was undecided. Six respondents said that the interview conversation was broadened by six people and five people said they were unable to say either way. When asked if it would be better if the current school checkups could be done at the clinic, six respondents could see each child individually, three felt it was cumbersome, and two, depending on the case, said it would be better if it could be done at the clinic. Overall, the overall impression of this trial was very positive, especially for the 8 who felt that it gave them a chance to talk with adolescents, but 6 responded that it would be better to involve schools and medical associations and think about it together.

In the free comments, it was a very good challenge, we were able to chat about it in a good way, it could be immediately useful for children with complaints, we were able to go to places that we couldn't go in the normal interview, it was also helpful to see how they responded in the interview, I don't think the current school physicals are helpful, and I think the current school screening Comments were made that it could be used, that it could be done for all of us at school, that a version for special needs schools might be needed, and that it was felt that it would be difficult for the first visit, as well as comments such as talking to a child who came in for vaccinations and found problems, and that it led to the discovery of an unmarked case of child abuse.

Table 7: From the Post-Survey to medical Institutions

Suever Clarify	Easy to understand	10/11
Questionnaire Contents	Appropriate	9/11
Survey response time	Within 3 minutes	9/11
Interview time	Within 5 minutes	9/11
Interview was easy?	Easy to do	10/11
The Questionnaire	Helpful	7/11
Spreading the conversation	Good	6/11
Medical checkup	Preferred	6/11
The opportunity to talk to adolescent child		8
No major changes from the past		2
It should be institutionalized		3
I don't want to be because I will be to busy		0
I want get schools and medical associations involved		6

Discussion

Until now, school physical examinations have focused on physical findings in groups and not on psychological and social approaches [2]. Although the importance of these findings has not been denied, it has been difficult to find an appropriate method for examining them, partly because it is difficult to do so in a group setting. With the cooperation of the authors, Tazawa et al. [15] proposed a 21st century questionnaire in 2008, but the number of items in the questionnaire is about 50, and it takes more than 10 minutes to fill out the questionnaire.

Internationally, the bio-psycho-social model proposed by Engel (5] has been gaining popularity since the early 2000s [16] and is now an indispensable concept in general practice [8].

However, in Japan, as mentioned above, although experts have proposed time-consuming tools, the hurdles are high for practicing physicians, and the concept has not yet become widespread.

In light of the current situation, we have been keenly aware of the importance of creating a system that can be filled out easily and that can be used to conduct interviews and interviews easily. Because the questionnaire for vaccination consists of about 15 items that can be filled out in about 3 minutes, we created a questionnaire in accordance with this questionnaire and distributed explanations of the questions based on the BPS model to participating physicians in advance. Of the BPS, questions about P and S, i.e., psychology and society, are part of the psychological interview, but the interview should not be conducted on a spur-of-the-moment basis, but with some idea of the flow beforehand, and although the semi-structured interview cannot be easily conducted in an outpatient clinic, it must be at least somewhat reproducible [17].

With this in mind, we tried a method in which children were asked to fill out a questionnaire beforehand, and they were asked to speak while looking at the questionnaire. Reproducibility and stability are important in general clinical practice as well, and the clinical path [18] is becoming more common in Japan, regardless of the department.

In the present trial, a question on favorite food was placed at the beginning of the pre-questionnaire; 96.6% of the children filled in a variety of answers, which may have been an easy introduction to the interview. The entire pre-interview questionnaire was generally completed within three minutes, and 88% of the interview time was less than five minutes, and we believe that examining the quality of the questionnaire will be a good basis for future work. However, based on the bias of the questionnaire's response results and the suggestions of the participating physicians, we proposed a revision of the questionnaire to exclude 5, 7, 9, 11, and 15 from the original questionnaire, to add "etc." to 10 for abdominal pain, and to 13 for exercise "at least once a week" instead of daily.

The previous questionnaires were designed to identify disorders and diseases, but this time, by asking questions about health and lifestyle, we aim to encourage children to think about their own health and lifestyle, rather than to find a disease, and to foster their own health literacy.

As a result of this survey, the number of high school students examined by the clinic was lower than that of elementary and junior high school students.

In order to function as a social resource as a family doctor in the community, it is necessary to form a relationship with the doctor from elementary school so that the children can talk about issues other than physical complaints.

In developing this questionnaire for children, we did not include questions about bullying, sex, drinking/smoking, screen time on phones or computer

or rarefied thoughts such as wanting to die. Although questions about drinking, smoking and screen time may contribute to the formation of health literacy, it is important to consider that children may respond in a negative way depending on the way they talk about it, and that a common understanding of how to deal with bullying, sex and rarefied thoughts in the primary health care setting should be reached. It was excluded because it was not considered to be available. However, for example, the author also created a sex education textbook with QR codes in his book [19], with the aim of properly informing children about sex issues, for example.

As mentioned earlier, the proportion of high school students in this study was smaller than that of elementary and junior high school students. By providing medical care that considers the BPS model, which takes into account not only the physical complaints of elementary and junior high school students but also their psychosocial background, and by being involved in creating health literacy, it is hoped that we will be able to achieve sustainability as a medical institution and medical care as a social resource for children. It is believed that this may contribute to the positioning of the institution.

Conclusion

Although the importance of being aware of the BPS model for adolescents is increasingly recognized, there are few models that can be used in practice, and this time we have shown that it can serve as a springboard for creating, testing, and using it. 87.8% of the children had the impression that they might come back for more. could lead to the sustainability of these attempts.

Conflicts of Interest: The author declares no conflict of interest.

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