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Investigation of Suicide Trends Focusing on Age Groups and a Proposal for Urgent Suicide Prevention Based on the Results

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We have been investigating trends in causative factors of suicide, and here we focus on the proportions of causative factors of suicides in under 19, 20-29 and 30-39 age groups during 2000-2001 and 2005-2006. During both periods, particularly significant causative factors for men in the under 19 age group were "problems in school" and "health problems", whereas the most commonly cited causative factors in the 20-29 and 30-39 age groups were "health problems", "economic and life problems", and "work problems". Particularly significant causative factors for women in the under 19 age group were "health problems" and "problems in schools", and prevalent causative factors for the women's 20-29 and 30-39 age groups were "health problems", "family problems", and "problems of relations between the sexes". These findings suggest that suicide prevention measures should be formulated with a focus on the specific factors unique to each age group.

Key words: suicide, young, Japan, causative factors, trends, focus

INTRODUCTION

In a report by the National Police Agency, the annual number of suicides in Japan was 30,000 or more during the years 1998-2011, and down to 27,858 in 2012 (1). The annual number of suicides in 2012 was less than 30,000 for the first time since 1998. The number of suicides in 1997 was 24,391, and thus the number of suicides in 2012 is not unusual when compared to the number of suicides in 1997. It is therefore important to continue and expand suicide prevention measures in Japan. Specific studies based on scientific evidence are needed to identify and eliminate the numerous causative factors of suicide. Here we focused on causative factors and suicide prevention measures for different age groups.

Many of the suicide prevention measures that have led to a decrease in the suicide rate in Japan and elsewhere around the world have been specific measures that were studied on the basis of definitive evidence (2-6). Previous studies have also indicated that continued implementation of suicide prevention measures is vital (7-13). Given the rising suicide rate among younger individuals in Japan, the Japanese government decided in late August 2012 to enhance suicide prevention measures for young people (14). Therefore, trends in suicide causative factors for younger age groups must be studied in order to devise specific suicide prevention measures for these individuals. In this paper, we report the results of our investigation into suicide trends focusing on age groups. We also propose measures to prevent suicide. We hope they will help based on the results.

MATERIALS AND METHODS

In this study, we examined the annual number

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of suicides and the proportion of causative factors in the following age groups: under 19, 20-29, and 30-39 years old for each gender in the years 2000, 2001, 2005 and 2006 in Japan based on numerical data from reports of the National Police Agency in the Journal of Health and Welfare Statistics (15-18). In the classification of causative factors, "family problems", "health problems", "economic and life problems", "work problems", "problems of relations between the sexes", "problems in schools", "others", and "unknown" was included in 'suicide note left' , and other classification was included in 'suicide note none'. We also focused on the proportions of causative factors of suicides in several age groups during the periods 2000-2001 and 2005-2006, and based on the results we discussed the necessity of further specific suicide prevention measures.

RESULTS

The annual number of suicides among both sexes was 31,957 in 2000, 31,042 in 2001, 32,552 in 2005 and 32,155 in 2006. The annual number of suicides among men was 22,727 in 2000, 22,144 in 2001, 23,540 in 2005 and 22,813 in 2006, and the number among women was 9,230 in 2000, 8,898 in 2001, 9,012 in 2005 and 9,342 in 2006. Among men, the annual number of suicides in age under 19 group was 420 in 2000, 387 in 2001, 382 in 2005 and 395 in 2006. The number of suicides in age 20-29 group was 2,295 in 2000, 2,145 in 2001, 2,357 in 2005 and 2,294 in 2006. The number of suicides in age 30-39 group was 2,728 in 2000, 2,673 in 2001, 3,389 in 2005 and 3,236 in 2006. Among women, the annual number of suicides in age under 19 group was 178 in 2000, 199 in 2001, 226 in 2005 and 228 in 2006. The number of suicides in age 20-29 group was 1,006 in 2000, 950 in 2001, 1,052 in 2005 and 1,101 in 2006. The number of suicides in age 30-39 group was 957 in 2000, 949 in 2001, 1,217 in 2005 and 1,261 in 2006.

The proportions of causative factors in suicide for the same groups and years in the research periods are shown in Figs. 1-4. It is notable that in the suicides among men in 2000, the most commonly cited causative factor in age under19 group was "problems in schools" (7.1%), and the second most commonly cited factor was "health problems". The highest proportion in the age 20-29 group was "health problems" (6.7%), and the second was "economic and life problems". In the age 30-39 group, "economic and life problems" (10.3%) was the most common causative factor, and the second was "health problems". In both the age 20-29 and 30-39 groups, the third most commonly cited factor was "work problems".

Among the men who committed suicide in Japan in 2001, the causative factors in the age under 19, 20-29 and 30-39 groups were "problems in schools" (8.3%), "health problems" (7.3%) and "economic and life problems" (10.0%). "Health problems" in the age under 19 group, "economic and life problems" in the 20-29 group and "health problems" in the 30-39 group were the second most commonly cited factors, and the third most commonly cited factor were "others" in the age under 19 group and "work problems" in the 20-29 and 30-39 groups.

Among the women who committed suicide in Japan in 2000, the most commonly cited causative factor in the age under 19 group was "problems in schools" (6.2%). The next common factor was "family problems", followed by "health problems" and "problems of relations between the sexes". The most commonly cited causative factor in the age 20-29 group was "health problems" (12.7%). The next proportion was "problems of relations between the sexes", followed by "family problems". The most commonly cited causative factor in the age 30-39 group was "health problems" (12.0%). The second highest proportion was "family problems", followed by "economic and life problems" and "problems of relations between the sexes". The most commonly cited causative factor among women in 2001 was "health problems" in the age under 19 (11.1%), 20-29 (11.5%) and 30-39 (11.5%) groups. The second highest proportion in the age under 19 was "problems in schools", followed by "family problems" and "problems of relations between the sexes". In the age 20-29 group, "problems of relations between the sexes" was the second highest proportion factor, followed by "family problems". The second highest proportion in the age 30-39 group was "family problems", followed by "problems of relations between the sexes".

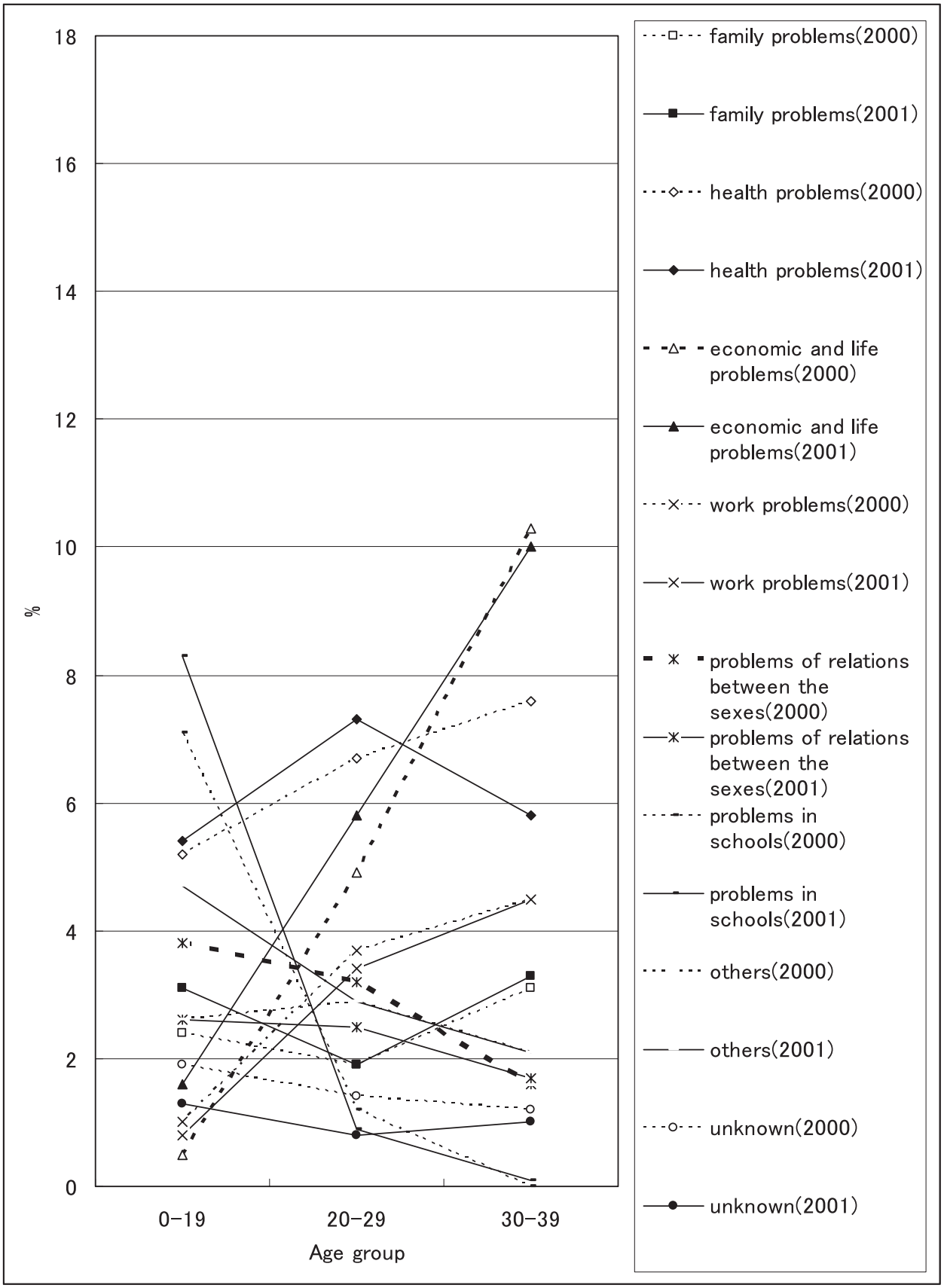

Fig. 1. Causative factors in suicide among men in 2000 and 2001.

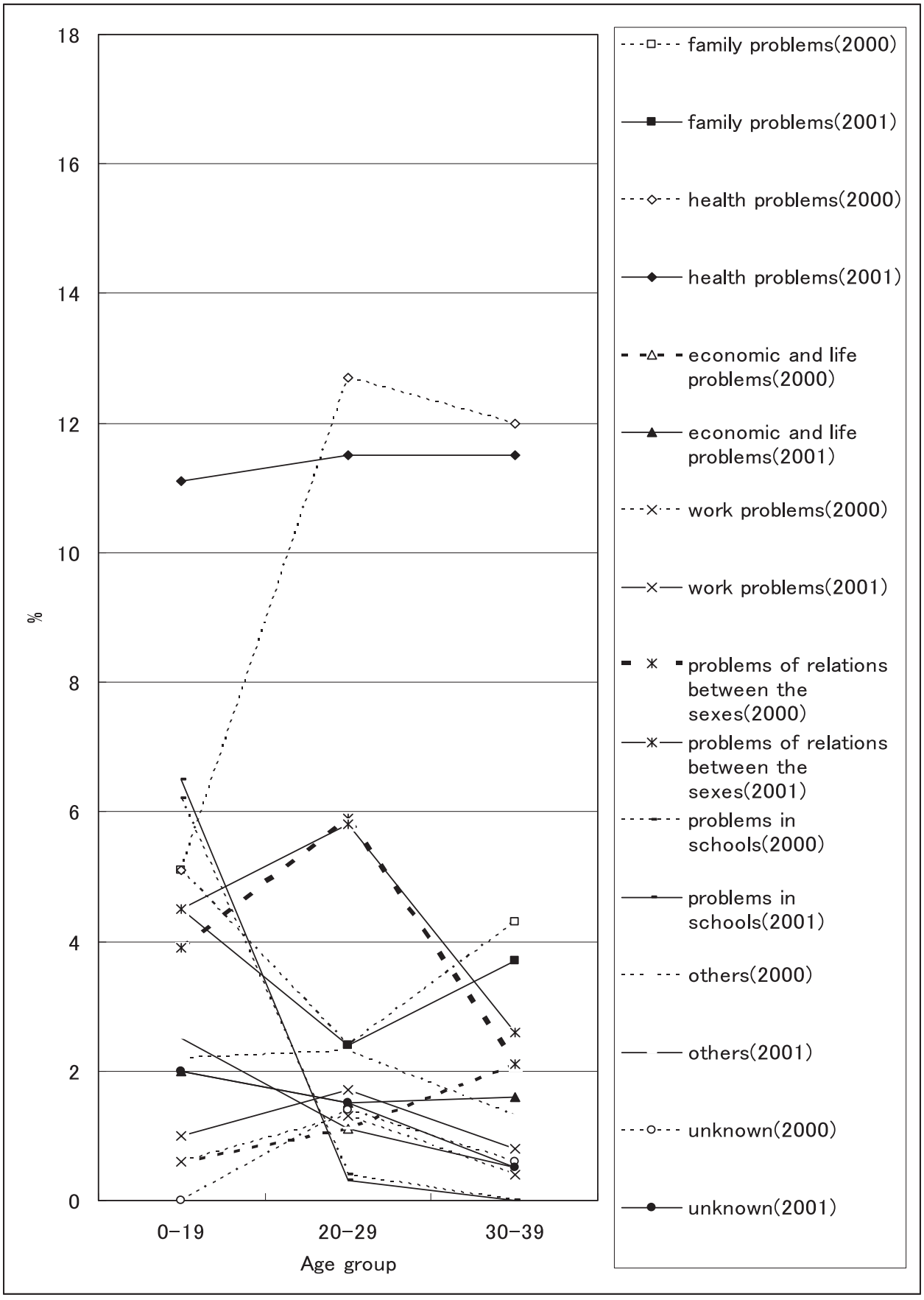

Fig. 2. Causative factors in suicide among women in 2000 and 2001.

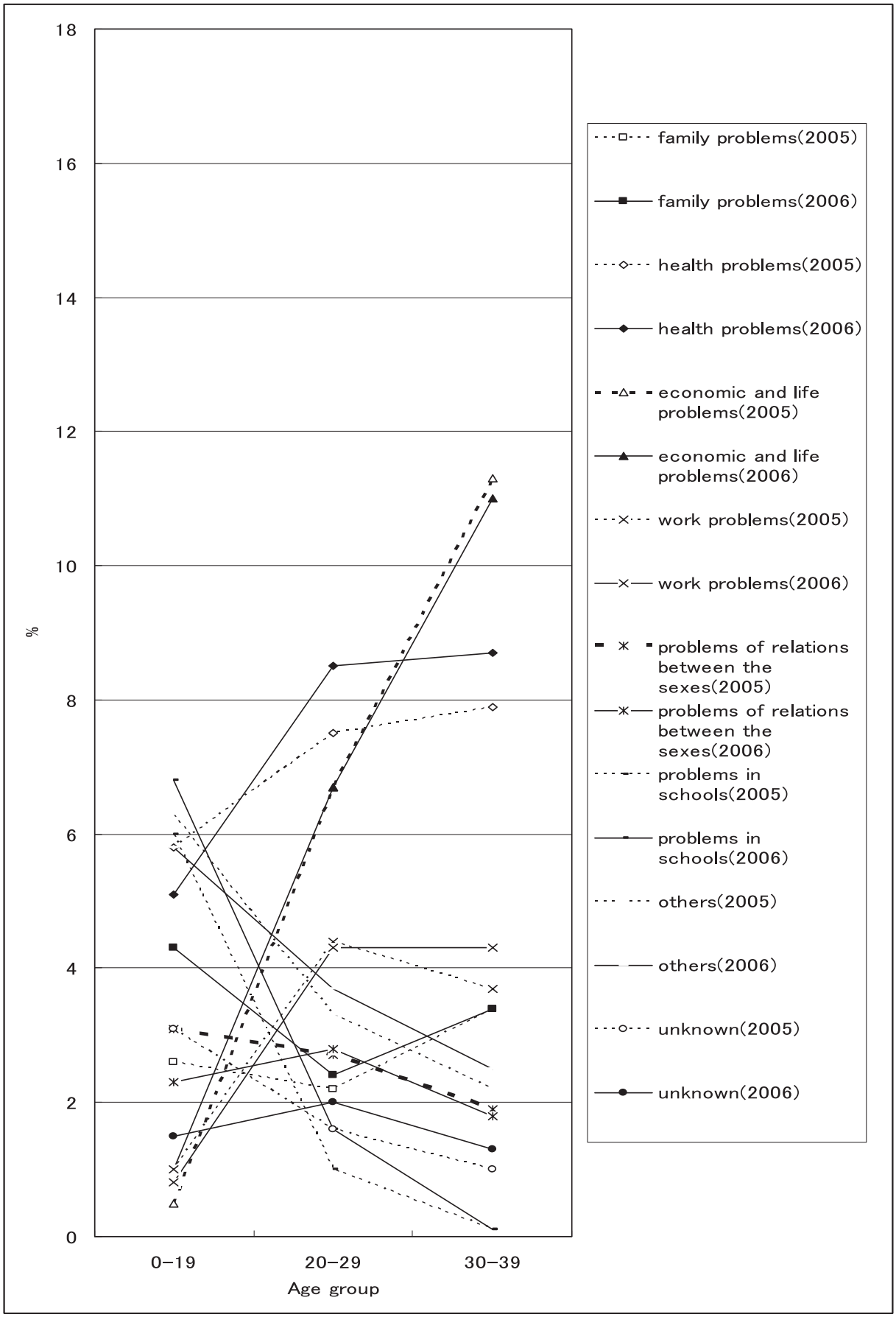

Fig. 3. Causative factors in suicide among men in 2005 and 2006.

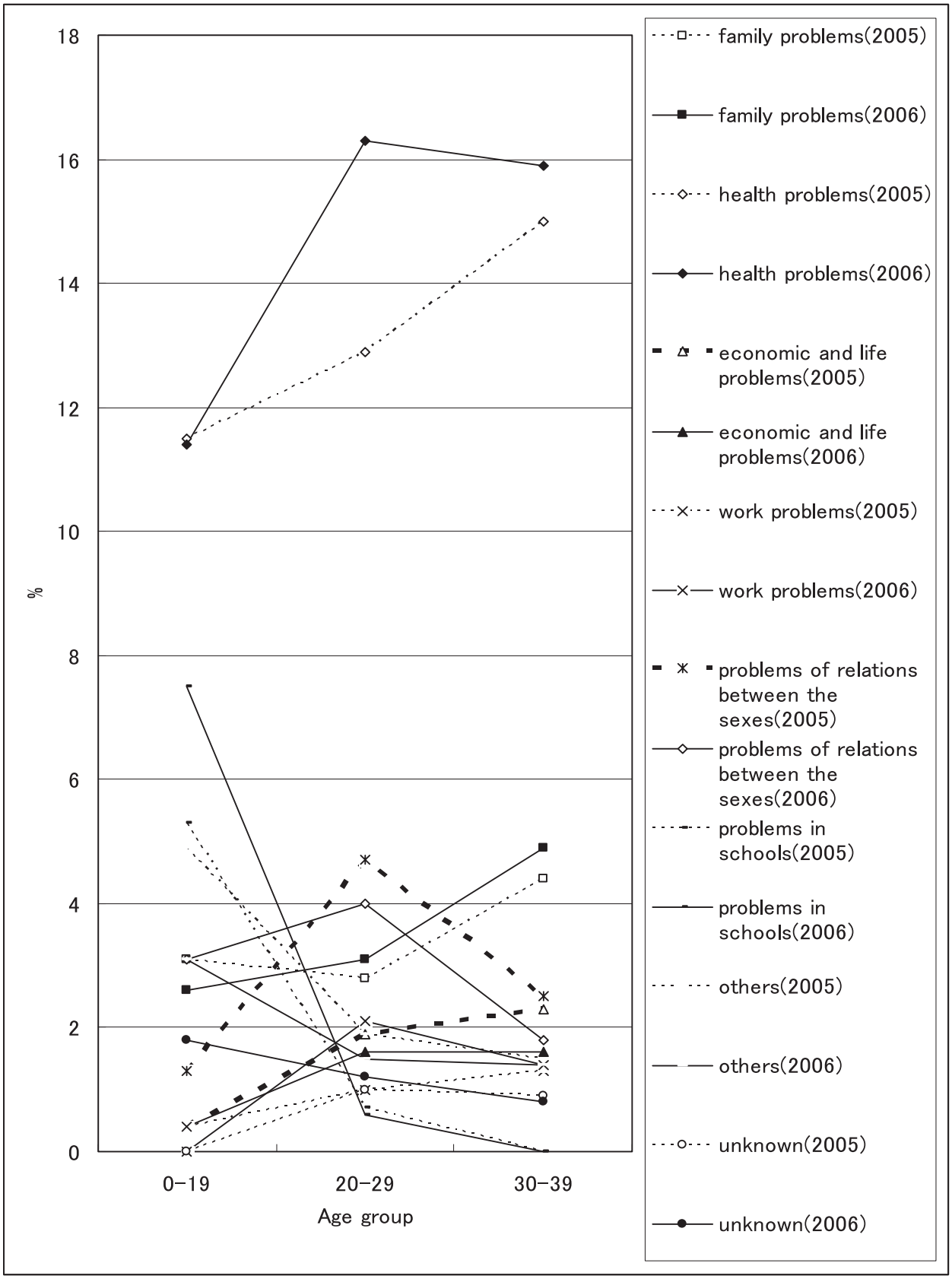

Fig. 4. Causative factors in suicide among women in 2005 and 2006.

Among men, the highest proportion of causative factors of suicides in 2005 was "others" (6.3%) in the age under 19 group, "health problems" (7.5%) in the age 20-29 group and "economic and life problems" (11.3%) in the age 30-39 group. The second highest proportion was "problems in schools" in the age under 19 group, "economic and life problems" in the age 20-29 group and "health problems" in the age 30-39 group. The next common proportion was "health problems" in the age under 19 group and "work problems" in the age 20-29 and 30-39 groups. In 2006, the highest proportion was "problems in schools" (6.8%) in the age under 19 and "health problems" (8.5%) in the age 20-29 group and "economic and life problems" (11.0%) in the age 30-39 group. The second highest proportion was "others" in the age under 19 group, "economic and life problems" in the age 20-29 group and "health problems" in the age 30-39 group. The third highest proportion was "health problems" in the age under 19 group and "work problems" in the age 20-29 and 30-39 groups.

In the suicide among women, the highest proportion of causative factors among women in 2005 was "health problems" in the age under 19 (11.5%), 20-29 (12.9%) and 30-39 (15.0%) groups. The second highest proportion was "problems in schools" in the age under 19 group, "problems of relations between the sexes" in the age 20-29 group, and "family problems" in the age 30-39 group, followed by "others" in the age under 19 group, "family problems" in the age 20-29 group, and "problems of relations between the sexes" in the age 30-39 group. The highest proportion of causative factors in 2006 was "health problems" (11.4%) in the age under 19 group, the second highest proportion was "problems in schools", followed by "problems of relations between the sexes" and "others". The highest proportion in the age 20-29 group was "health problems" (16.3%), the second highest proportion was "problems of relations between the sexes", and the next highest proportion was "family problems". In the age 30-39 group, the highest proportion was "health problems" (15.9%), the second highest proportion was "family problems", and the third proportion was "problems of relations between the sexes".

DISCUSSION

The proportions of causative factors were examined in each age group during the combined terms 2000-2001 and 2005-2006. During both periods, particularly significant causative factors for men in the age under 19 group were "problems in schools" and "health problems". Similar causative factors for men in the age 20-29 and 30-39 groups were "health problems", "economic and life problems", and "work problems". During both periods, particularly significant causative factors for women in the age under 19 group were "health problems" and "problems in schools". A comparison of this age group between 2000-2001 and 2005-2006 indicates that the proportions of "family problems" and "problems of relations between the sexes" decreased in 2005-2006. During both periods, particularly prevalent causative factors for the 20-29 and 30-39 age groups were "health problems", "family problems", and "problems of relations between the sexes". These results show that the causative factors of suicides in Japan cited by the two genders were the same in each age group. They also suggest that specific suicide prevention measures must be formulated with a focus on these factors.

In a prior study, most of the reported health problems in an under 55 age group of individuals who attempted suicide were due to psychiatric illnesses, whereas most of the problems for an over 65 age group were due to physical illnesses. The authors indicated the need for support for each age group based on these findings (19). Another report noted that both genders showed suicidal ideation and a need for mental health resources (20). Ono et al. showed that the risk of suicide plans and attempts is often present at an early age and occurs within a year of suicidal ideation (21). One report found that the detailed aspects of "economic problems" included "patients who developed depression amidst changing circumstances, such as reduced pay due to the recession", "patients facing debts due to pathological gambling or other vices", and "patients with an alcohol problem who lead an unstable lifestyle and who are also pressured financially" (22). An association between socioeconomic factors and suicide is described in several studies (23-25).

Laws are being developed to deal with "economic problems" in the form of multiple debts, and these problems can be resolved by appropriate steps in some cases; support in conjunction with counseling services is needed (26). Relevant organizations must discern and examine trends in "family problems", "problems in schools", and "problems of relations between the sexes".

Studies from varied perspectives are vital to the formulation of specific suicide prevention measures. Comprehensive prevention measures must be promptly implemented along with measures to prevent potential risk factors and numerous causative factors. Experts in organizations and fields related to suicide prevention must consider which suicide prevention measures to formulate, and they must coordinate the implementation of those measures when necessary.

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