

Prevalence of ADHD in Vietnamese Children: Examination of Primary School Children in Ha Tinh, Vietnam

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ABSTRACT

Purpose: ADHD is a detrimental disorder found commonly in children. As more research is done on the prevalence of ADHD in children around the world, Vietnam has started to join in the trend. However, there has not been enough data collected on the prevalence of ADHD children in different provinces in Vietnam. This study aims to propose a method to collect data on the prevalence of ADHD and explain the risk factors for ADHD in 6 to 7 years old Ha Tinh children.

Patients and Methods: This research's method is based on a previous research's method. There will be a cross-sectional study of 1796 students from 14 randomly selected elementary schools from 14 districts of Ha Tinh. The information will be gathered through a two-part Vanderbilt-Assessment-scale-based questionnaire which will be distributed to the guardians and teachers to fill in, and individual interviews for each guardian and teacher.

Limitations (intended): For a topic with little recognition in Vietnam yet, this research might lack the adequate human resources, fundings and participants' consent.

Conclusions (tentative): This problem requires more attention from both the public and government in order to be dealt with effectively.

I. Introduction

According to the DSM-V by American Psychiatric Association, attention deficit hyperactivity disorder (ADHD) is defined as "persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development." This is a detrimental disorder that requires early intervention especially in young children because ADHD has both short-term and long-term implications. It was proven that ADHD enabled poor working memory performance. Furthermore, under regular reinforcement conditions, children showed strong underperformance on visuospatial working memory tasks, which required high incentives in order to perform full working memory abilities¹. Researchers also found that around 60% of adults with childhood ADHD symptoms continue to have difficulties in life, ranging from being dismissed from employment, continuous job changes, interpersonal difficulties with colleagues, lateness, absenteeism, excessive errors, relationships difficulties, etc.² In addition, it is also suggested that ADHD affects families' quality of life and functioning³.

It is imperative that children should be diagnosed from an early age as early detection of ADHD may enable early intervention of the development of the disorder. As preschool children's brains are more "plastic", permanent modifications of ADHD interventions can be made⁴ before complication factors including low self-esteem, poor academic performance, poor interpersonal skills, antisocial behaviors and substance abuse⁵ emerge, making treatments more challenging.

With ADHD implications in mind, studies have been conducted throughout the world to determine the prevalence of ADHD in children. According to a study in 2013, China had a national ADHD prevalence of 5.7% in preschoolers and elementary students⁶. In 2008, Germany was reported to have a prevalence of 4.8% ADHD in children

from 3 to 17 years old⁷. In a 2000 study, Brazil had a remarkable ADHD prevalence of 18% in 7 to 8.8 years old children⁸.

Vietnam has begun to see recently conducted research into ADHD among young children. A study of 525 Hue children⁹ in 2021 found that the prevalence of ADHD in 6 to 7 years old was 6.3%. Another study of 600 Vinh Long children in 2009 shows a prevalence of 7.7%¹⁰. A 2012 study of 400 elementary school students in Ha Noi found an ADHD prevalence of 6.3%¹¹. However, the studies are far and few and the limited findings are not enough to conclude on a national average picture. Therefore, there is a great need to collect data on the prevalence of ADHD among primary school children in other provinces of Vietnam, particularly among those at 6 or 7 years old as these are the transitioning years from kindergarten to primary school with entailed psychological changes.

II. Lack of Data in Vietnam

There are many factors leading to a lack of data on the prevalence of ADHD in 6 to 7 years old children in Vietnam. It was suggested¹² that a reason behind the lack of research was Vietnamese's dependence on overseas research, feeling that those findings are enough, and nothing left to cover. However, the prevalence of ADHD varies according to social contexts and local cultures¹³, meaning that existing research into ADHD in 3 provinces in Vietnam^{9,10,11} cannot be generalized to 60 other provinces of the country. As a result, individual examinations must be conducted for each province in order to have an accurate overview of the situation for Vietnam as a whole.

In addition, even though ADHD was founded and coined centuries ago, it is still a relatively new mental disorder in Vietnam¹⁴ and accompanied by a few cases of misdiagnosis¹², finding experienced technicians to diagnose this disorder accurately will be difficult. Moreover, lack of attention to this problem from the government, such as lack of mental health legislation, human resources, hospital beds accompanied by lack of diversification of mental health services and unclear policies from government, results in inability to cover a large number of ADHD children^{15,16}.

It was also suggested that there still exists Vietnamese stigma against mental disorders^{12,17}. There exist parents who believe their children's unusual behaviors do not deserve to seek help¹⁷. In Vietnam, due to lack of mental illness awareness, Vietnamese tend to consider mental illnesses as disease, instability, unknowledgeable or negative¹⁷. As a developing country, many households are struggling to make ends meet so with labels such as intellectual disability and insanity, Vietnamese tend to consider people with these labels as "burden" and have a prejudice against them. This results in families with ADHD children who will convince themselves that their children do not have ADHD but rather they are only hyperactive. Not to mention, in Vietnam, mental illnesses are considered as "weaknesses,"¹⁸ further discouraging Vietnamese parents to help their ADHD children seek help from actual professionals.

Finally, the prices for existing medicines for ADHD in Vietnam are too exorbitant for the working class to afford so they resort to alternatives in private. For example, for Concerta, it is sold for approximately 1.3 million VND (approximately 65 USD) for 18 MG in Vietnam. For 0.15 MG Clonidine, it costs around 200 thousand VND (approximately 10.89 USD). Considering the working class's salary averages around 4.23 million VND monthly for direct production employees (approximately 170.34 USD)¹⁹, with such a high price for medication and continuing stigma, some Vietnamese parents are reluctant to spend that high proportion of their income for medicines prescribed by professionals¹². Thus, they resort to alternative and unconventional methods such as rituals and herbal remedies¹⁷, ineffectively curing their children's disorder and hiding their children's disorder from medical facilities.

As urbanization is on the increase, the risk of ADHD syndrome due to gene-environmental interaction is also rising²⁰. Even though Vietnamese children are obtaining more education and healthcare opportunities, mental health demands are still lacking, particularly findings of children's ADHD prevalence and risk factors to suggest proper policies as well as health managements for schools and families' environments⁹. As such, children's mental health care, ADHD in particular, requires more attention.

Research question

To fill the gap of children's ADHD data in Vietnam, I propose an investigation into the prevalence of ADHD children of age 6 to 7 in Ha Tinh province as this is a central area in Vietnam with a dense population of approximately 1.3 million residents. The research aims to collect data of the prevalence of ADHD children aged 6 to 7 in Ha Tinh and explain the risk factors that contribute to the cause of ADHD in children.

III. Methodology

This research will base its suggestions on the previous research⁹.

Study population

A two-month cross-sectional study is suggested to be conducted within 6 to 7 years old children in Ha Tinh. The population will include 14 randomly selected schools from 14 districts of Ha Tinh.

Sample size and sampling

Sample size can be calculated using the formula: $n = Z_{1-\alpha/2}^2 \frac{p(1-p)}{d^2} x D$. Based on previous research¹⁰, it was found out that the prevalence of ADHD among primary school children was 7.7%. Setting the significance level (α) at 0.05, margin error (d) at 0.05, design coefficient (D) at 14, the sample size is approximately 1529 students and with the assumed non-response rate of 17.5%, the sample size is approximately 1796 students.

We can use a two-stage sampling approach. Firstly, we pick out 10 geographic and socio-economic representative schools in each district and randomly choose one out of those 10 schools. Secondly, we make a list of first graders in these 14 schools and randomly choose 128 first grade students for 10 randomly chosen above schools and 129 random first graders in the 4 final schools. This will generate 1796 randomly chosen first graders for the sampling.

We will then send invitation and consent forms for the first graders' homeroom teachers and their guardians to take part in the experiment and collect the data after the experiment.

Data collection procedure

We can use both interviews and questionnaires for this research. After handing out the questionnaires at school for the teachers and the children to hand it over to their guardians, research supervisors can conduct interviews at school for teachers and at home for guardians. After interviewing, the supervisors check all responses in the questionnaires.

Measurement instruments

The questionnaire will be divided into two parts.

The first part consists of the National Institute for Children's Health Quality (NICHQ) Vanderbilt assessment scales²¹ with two versions for teachers and caregivers to evaluate children's ADHD symptom types within the last 6 months and their academic performance. This scale will be translated into Vietnamese and have its content, language, setting reviewed by certified psychiatrists and teachers.

The second part will include socio demographic information, children's personal characteristics and parents' maternal factors.

For disorder symptoms, the assessment will be on a scale of 3 based on frequency: 0 is never, 1 is occasionally, 2 is often, 3 is very often. For assessing academic performance, it will be on a scale of 5: 1 is excellent, 2 is above average, 3 is average, 4 is somewhat of a problem and 5 is problematic.

Limitations (intended)

The required human resources for this project may not be enough as this topic is not generally recognised in Vietnam²². With more urgent needs such as COVID-19-related research demanding more human resources, a lower priority research such as this may not generate enough volunteers and collaborators.

Additionally, as mental illness stigmas still exist, parental and teachers' consent to participate in this experiment may be lower than expected. With lower consent and participants, the research cannot be generalized fully and cannot meet the target goal.

Finally, the funding for this project may not be enough to go ahead as this project is months-long and region-scale. As mentioned above, this topic is not generally recognised²² so seeking sponsorships from specialized organizations will be difficult. This research can potentially raise funds from the public but low public recognition²² might be a difficulty.

IV. Conclusions

As ADHD is a detrimental disorder in children, more research needs to be done on this matter. Before treatment policies can be systematically determined for Vietnam as a country, it is crucial to acknowledge the prevalence of ADHD in each of its 63 provinces as well as establish the potential risk factors leading up to the cause of the disorder. The methodology used in this paper has the potential to be replicated to all geographical provinces, providing sufficient human resources and funding support. Therefore, I propose more attention from both the public and government given to this matter.

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Appendix

Below are the related Vietnamese articles which I used to find out the prices of Concerta, Catapressan and Ha Tinh's population.

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