

RESEARCH ARTICLE

The ability of adolescents to recognise common indicators of mental health problems, and their sources of mental health knowledge

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Abstract: There is evidence that many mental health disorders have their origin in adolescence, and that early intervention can improve long-term outcomes. Thus, it is important that adolescents are able to recognise complex indicators of mental health problems that could also be understood in the context of other issues. As such, the objectives of this study were to describe the ability of an adolescent population to recognise and attribute poor school performance, headaches, fatigue, body aches, aggression and violence, to a mental health problem. The common sources of mental health knowledge in this population were also described. This was a descriptive cross-sectional study, conducted in the Sri Jayawardenapura education zone in Sri Lanka, using a structured, pre-tested questionnaire. A multistage cluster sampling method was used with a total sample size of 1002. The results show that poor school work was attributed to a mental health problem by 56% (n=562). The attribution rates for headaches, fatigue and body aches were 42.3%, 32.7%, and 26.5%, respectively. Aggression (64.2%) and violence (66.8 %) was mostly attributed to mental health problems. The main sources of mental health knowledge were subjects taught at school (71.7%) and television (50.9%). Educating adolescents on the possibility of somatic symptoms being part of a mental health problem, and conversely understanding the contribution of other factors to aggression and violence are important. Both traditional and newer forms of media can be utilized for this purpose.

Keywords: Adolescents; aggression; violence; headaches; poor school work; fatigue.

INTRODUCTION

Mental health problems among adolescents is a major public health concern in many parts of the world. According to a comprehensive review on child

psychiatric epidemiology, one out of every four youth, will meet lifetime criteria for a mental health related disorder (Costello *et al.*, 2003) Surveys across cultures have also indicated the possibility of mental health problems in children and adolescents being more prevalent in developing countries (Richard Hackett 1999). In Sri Lanka, adolescents form nearly one fifth of the population as per the most recent available population survey (Department of Census and Statistics, 2012). While current prevalence rates of mental health problems among adolescents in Sri Lanka is not known, a national survey in 2004 using a screening tool indicated that close to 1/5th of adolescents aged 13 –18 years showed features of emotional and behavioural problems (Perera, 2009). With cohort trends of some mental health disorders among adolescent showing an increase with time (Twenge *et al.*, 2019), the current rates of these problems are likely to be higher in Sri Lanka as well. It is also known that adolescents are reluctant to seek help especially for mental health problems, due to various reasons, including a poor understanding of these conditions (Divin *et al.*, 2018).

As such, a vital first step in the process of help seeking would be the ability to recognise mental health problems in themselves as well as in their peers. It is possible that due to a lack of knowledge, many mental health problems among adolescents are not identified and not referred to appropriate services. Thus, a vital opportunity to intervene and change the developmental trajectories of these adolescents may be missed. If these mental health problems are recognised and treated early, it may improve the long term outcome of these adolescents

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(Jorm *et al.*, 1997). Studies have also shown that earlier and better help seeking is related to the prevention of adverse social, educational and vocational outcomes in those with mental illnesses (Kessler *et al.*, 1995).

This being the case, the concept of mental health literacy and how this can improve appropriate help seeking have generated much interest among researcher as well as those implementing community programmes. Mental health literacy includes the ability to recognise specific disorders, knowing how to seek mental health information, knowledge of risk factors and causes of self-treatments, professional help available, and also attitudes that promote recognition and appropriate help-seeking (Jorm, 2000). In a research conducted by Bjornsen *et al.* (2007), positive mental health literacy accounted for 41% of the variance in adolescent mental wellbeing. This study also suggested that knowledge on how to obtain and maintain good mental health should be an integral part of school health services (Bjornsen *et al.*, 2007). School based interventions improving Mental Health Literacy in adolescents was also supported by a recent systematic review by Seedaket *et al.* (2020).

While there are many studies from different parts of the world that have looked at adolescents abilities to identify features of specific mental health disorders (Goodsell *et al.*, 2017; Zenas *et al.*, 2020; Trompeter *et al.*, 2021), not many studies have looked at knowledge regarding identification of somatic and behavioural indicators of mental health problems such as aggression and violence, that can be a result of many other bio psycho social factors.

As such, the objectives of this study were to describe the ability of an adolescent population to recognise and attribute poor school performance, headaches, fatigue, body aches, aggression and violence to a mental health problem. The common sources of mental health knowledge in this population were also described. Poor school performance, headaches, fatigue, body aches, aggression and violence were chosen as the indicators of mental health problems, as they are commonly seen in clinical presentations to adolescent health services in Sri Lanka. While poor school performance is known to be associated with mental health problems in a bidirectional manner (Agnafors *et al.*, 2021), somatisation is commonly seen in South Asian populations (Grover & Ghosh 2014). Aggression and violence can also be a part of mental health problems although this can also be due to many other factors (Barlati *et al.*, 2019).

METHODOLOGY

Setting

This was a community based cross-sectional study conducted in the Sri Jayewardenepura educational zone in the Colombo District of Sri Lanka. Those in grades 9 and 10 were chosen for the study. The adolescents were between 13 and 16 years of age.

Sample

The sample size was calculated using the following formula.

$$n = Z_{1-\alpha/2}^2 \frac{P(1-P)}{d^2}$$

(Where n is required sample size, $Z_{1-\alpha/2}$ is Z value at 95% significant level = 2, p is Expected prevalence, d is Precision = 5%).

For sample size calculation, prevalence was assumed to be 50% as the prevalence rate of stigma was unknown, and difficult to quantify.

A further 10% of participants were added (to the number 384) to account for non-response (422). This was then multiplied by 2 to counter the design effect. Thus, the final minimum sample size was calculated to be 844.

Further details can be found in a previously published concurrent study (Attygalle *et al.*, 2017).

A multistage cluster sampling method with stratification was used as this education zone included several categories of schools, with different resource levels and different streams of study. In all 46 schools were selected for the study (Attygalle *et al.*, 2017). A classroom with student number between 15 and 40 was considered a cluster (mean 28 students).

Data Collection

The data collection tool was a self-administered questionnaire tested for face and content validity using the Delphi method. There were 6 members in the Delphi panel, and the process was continued for 5 rounds until all participants agreed on the content of the questionnaire. The questionnaire was translated into Sinhala and Tamil and back translated using accepted methods. The respondents were simply asked to self-report whether

they recognised and attributed poor school performance, headaches, fatigue, body aches, aggression and violence as a mental health, physical, spiritual or other problem. As only the recognition and attribution of these indicators as being a part of a mental health problem was assessed, the respondents were allowed to answer according to any beliefs, perceptions or knowledge they possessed. Spiritual problems were included in the list as there is a tendency in Asian populations to attribute features of mental health problems to spiritual factors and seek traditional healing methods (Pham *et al.*, 2021). The broad terms social problems and cultural problems were not used as this age group may not have been able to differentiate between these categories. This could have also made the responses less reliable if the adolescents did not have a proper understanding of social and cultural factors. This study did not include any contextual factors (e.g., a vignette describing a scenario) and only assessed the recognition and attribution of these indicators as being part of mental health problems. This was as the objective was to assess the ability to recognise and attribute these indicators to being possibly part of mental health problems, rather than assessing the recognition of feature of specific mental health problems like depression or anxiety, as done in other studies (Attygalle *et al.*, 2017).

The respondents were allowed multiple responses to the same question, and a pilot study was conducted to assess the acceptability and comprehension of the questionnaire and to get further inputs. Permission for the study was obtained from the office of the Zonal Director of Education. While ethical clearance was obtained from the ethics review committee of the University of Colombo, prior, written informed consent was obtained from the parents as well as assent from the participants.

No personal identifiers were included in the questionnaire and anonymity of the participants was maintained.

RESULTS

In total data was collected from 1002 adolescents. There were 590 (58%) males in the sample with a mean age of 14 years (SD \pm 0.94).

Fifty six percent of respondents attributed poor school performance to a mental health problem, 34.6% to a physical problem and 32.4% to a spiritual problem (Table 1). While 72.8% of respondents attributed headaches to a physical problem, 42.3% attributed it to a mental health problem (Table 2).

With regards to fatigue, 75% of the respondents attributed it to a physical problem and 32.7% attributed it to a mental health problem (Table 3). While 81.8% of the respondents attributed body aches to a physical problem, 26.5% attributed it to a mental health problem (Table 4).

Sixty four percent of respondents attributed aggression to a mental health problem, 32.4% to a physical problem, and 29.1% attributed this to a spiritual problem (Table 5). Nearly sixty seven percent attributed violence to mental health problem. However, 39.2% and 22.2% attributed it to a physical and spiritual problem (Table 6).

When considering the sources of acquiring mental health knowledge, 71.7% responded that this was through a subject at school, 50.9% through television, 50.6% through elders and 46.7% through newspapers (Table 7).

Table 1: Attribution of poor school performance to a Physical, Mental health, Spiritual or other problem

Type of problem	Number	% (n=1002)
Physical problem	347	34.6
Mental health problem	562	56.1
Spiritual problem	324	32.4
Other	131	13.1
Did not answer	73	7.3

Table 2: Attribution of headaches to a Physical, Mental health, Spiritual or other problem

Type of problem	Number	% (n=1002)
Physical problem	730	72.8
Mental health problem	424	42.3
Spiritual problem	75	7.5
Other	68	6.8
Did not answer	88	8.8

Table 3: Attribution of fatigue to a Physical, Mental health, Spiritual or other problem

Type of problem	Number	% (n=1002)
Physical problem	752	75.0
Mental health problem	328	32.7
Spiritual problem	69	6.9
Other	93	9.3
Did not answer	102	10.2

Table 4: Attribution of body aches to a Physical, Mental health, Spiritual or other problem.

Type of problem	Number	% (n=1002)
Physical problem	820	81.8
Mental health problem	266	26.5
Spiritual problem	55	5.5
Other	71	7.1
Did not answer	84	8.4

Table 5: Attribution of aggression to a Physical, Mental health, Spiritual or other problem

Type of problem	Number	% (n=1002)
Physical problem	325	32.4
Mental health problem	644	64.2
Spiritual problem	291	29.1
Other	129	12.9
Did not answer	126	12.6

Table6: Attribution of violence to a Physical, Mental health, Spiritual or other problem

Type of problem	Number	% (n=1002)
Physical problem	392	39.2
Mental health problem	670	66.8
Spiritual problem	222	22.2
Other	103	10.3
Did not answer	69	6.9

Table7: The various sources of health education (multiple responses were allowed)

Type of problem	Number	%(n=1002)
Physical problem	719	71.7
Mental health problem	510	50.9
Spiritual problem	468	46.7
Other	312	31.1
Did not answer	507	50.6

DISCUSSION

Recognition of common indicators of mental health problems

The majority of respondents in the study attributed poor school performance, with a mental health problem (Table 1). Intellectual Disability/ Disorders of Intellectual Developmental and specific developmental disorders of scholastic skills/ specific learning disorders, are included in the major psychiatric classifications as diagnoses specifically related to poor academic work (World Health Organisation 2011; American Psychiatric Association, 2013). In addition, mental health issues such as, depression and anxiety, early psychosis as well as Attention Deficit Hyperactivity Disorder can also lead to poor school performance. This relationship however, can be a complex one, with cognitive, developmental, emotional, social and behavioural factors all being possible contributors to poor school performance. However, whether the respondents considered all these possibilities cannot be clarified in this study.

The previously mentioned national survey notes that the impact of emotional and behavioural parameters in adolescents in Sri Lanka, was felt mostly in the domain of educational functioning (15.5%) (Perera, 2009). This may be explained by this population having to face two major exams, the G.C.E Ordinary level and the G.C.E Advanced Levels exams, that have major consequences for their future. On the other hand, another survey indicated that nearly 40 % of adolescents found it stressful to cope with academic pressures due to expectations of parents and teachers (Family Health Bureau, Sri Lanka, 2013). Thus, difficulties with academic work at school may be also an indicator of psychological distress in vulnerable adolescents. As such, it is encouraging that many adolescents in this study consider it as a possible sign of a mental health problem.

In the current study, a relatively high proportion of the adolescents attributed headaches (72.85%), fatigue (75%) and body ache (81.83%), to a physical problem. However, 42%, 32% and 26.5% also considered the possibility of a mental health problem leading to these presentations (Tables 2, 3 and 4). As multiple responses were allowed, respondents would have been able to choose both option if they so desired. Previous research suggests that fatigue, headache, stomach ache, and backache are relatively common in adolescent populations. A large international survey showed that about 8% of adolescents report daily headaches, 10% daily backache, and 16% daily sleepiness in the mornings (World Health Organisation, 2003). Fatigue is even more common with about a third

of both boys and girls reporting substantial fatigue four or more times a week (World Health Organisation, 2003).

As many psychological/psychiatric problems present as somatic complaints in this age group, awareness of this possibility is vital for appropriate health seeking and referral. A previous study reported that somatic complaints were present in 69.2% of children and adolescents referred for emotional or behavioural problems to a psychiatric service (Kradin, 2013). Thus, the finding of this study indicates that educating adolescents on the interconnection between mental and physical illness, and the possibility of mental problems presenting with physical symptom can be useful. This is especially important considering that somatization is a relatively common way of expression of mental health problems in many Asian cultures (Masi *et al.*, 2000; Cheng *et al.*, 2019) gender, and psychiatric status was considered as a variable. Each patient received a DSM-IV assessment, including a diagnostic structured interview (DICA-R).

The responses in the current study showed that both violence (66.86%) and aggression (64.27%) were attributed predominantly to mental health problems (Table 5 and 6), with only a relatively small number responding that these presentations could be part of a spiritual or physical problem (Tables 5 and 6). While violence is an intentional use of physical force (World Health Organisation, 2002), aggression is defined as an overt social interaction with the intention of inflicting damage (World Health Organisation, 2002). Although aggression and violence can be associated with mental health problems (Barlati *et al.*, 2019), there can be many other factors that lead to this kind of behaviour. Other intra personal factors, environmental factors as well as interaction between these factors can all contribute to a person engaging in violence and aggression (Krahé, 2020). It is known that while mental illness may increase the likelihood of committing violence in some individuals, only a small part of the violence in society can be attributed to those with mental health problems (Mulvey, 1994). In this study the recognition of these presentations as mental health problems by the respondents may not translate to a broader understanding of the complicated issues, that lead to aggression and violence in the local context (Munasinghe & Celermajer, 2017). Identifying these behaviours as mainly mental health problems can lead to discrimination and stigmatization of those with mental health problems (Varshney *et al.*, 2016). Thus, educating adolescents on these aspects is important. Further exploration of the factors leading adolescents to attribute violence and aggression to spiritual problems is needed.

Sources of mental health knowledge

Almost half of the study population attributed television, newspapers, elders and school programmes as sources of mental health knowledge.

The current study highlights that traditional sources of mental health knowledge, like health education subjects taught at school, and even the knowledge gained from elders remain an important source of information for adolescents. However, other sources like the television too have gained importance. A survey by the Department of Census in 2007, shows that 76% of Sri Lankan households had access to television (Amara Satharasinghe, 2007). With considerable penetration into households this media appears to be an important source of gaining mental health knowledge.

According to the World Bank data on Sri Lanka, the island's internet use is rapidly increasing was estimated at 34% of the population in 2019 (World Bank, 2020). Although this percentage is lower in comparison to the developed countries, Sri Lanka's internet access rate was comparable to the regional tech giant, India (34%) (World Bank, 2020). This may be reflected in the 30% of the respondents in the current study, who stated that internet was a source of health educational knowledge. As such it is likely to be an important source of mental health knowledge in the future.

Interestingly, although it is commonly acknowledged that adolescents are influenced to a great degree by their peers, only 13% reported to having gained mental health knowledge from a friend. Meanwhile, countries like Australia, the United Kingdom and the United States have successful peer mentoring programmes for young people (Herrera *et al.*, 2011). These successes indicate that, friends/peers can be valuable source of mental health knowledge in addition to being a source of support (Herrera *et al.*, 2011). In Sri Lanka too, these types of formalised programs are likely to be useful in the future.

The current study indicates that adolescents gain mental health knowledge from multiple sources. Thus, it is likely that programmes that aim to improve mental health knowledge in the future could gain the best results, if they utilize various media and sources, both in and outside of school.

Limitations of the current study

This study was limited to a school going population. It is possible that the responses may have been different if

school drop outs were included in the study. It is also likely that if more response options (such as an option to categorise cultural or social problems) were given this would have resulted in a broad range of answers. While the study used closed ended questions, having open ended questions may have again given a broader range of answers. While this study only assessed the attribution of these indicators to a mental health problem, the reasons for these attributions and the context in which they were made was not explored.

CONCLUSION

In the current study, Poor school performance, aggression and violence was mainly attributed to mental health problems. The somatic symptoms of headaches, fatigue and body aches were mainly attributed to physical problems, even though the respondents were given the opportunity of choosing multiple options. Both, subject material at school and also television was reported as major sources from which adolescents gained mental health knowledge.

Educating adolescents on the possibility that somatic symptoms (e.g., headache, fatigue, body aches) can be indicators of possible mental health problems, and conversely that aggression and violence may be contributed to by other factors, needs to be considered. Both traditional and newer forms of media can be utilised to increase their mental health knowledge.

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