



UNIVERSITI PUTRA MALAYSIA

***EFFECTIVENESS OF A SCHOOL-BASED ANXIETY PREVENTION
PROGRAM FOR STANDARD FOUR AND FIVE PRIMARY SCHOOL
CHILDREN IN JERANTUT, PAHANG, MALAYSIA***

SITI FATIMAH BINTI AB GHAFAR

FPSK(P) 2018 24



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By

SITI FATIMAH BINTI AB GHAFFAR

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfillment of the Requirements for the Degree of Doctor of Philosophy**

August 2018

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Doctor of Philosophy

EFFECTIVENESS OF A SCHOOL-BASED ANXIETY PREVENTION PROGRAM FOR STANDARD FOUR AND FIVE PRIMARY SCHOOL CHILDREN IN JERANTUT, PAHANG, MALAYSIA

By

SITI FATIMAH BINTI AB GHAFAR

August 2018

Chairman : Professor Sherina Mohd Sidik, PhD
Faculty : Medicine and Health Sciences

Background : About 10 to 20% of children and adolescents globally, had mental health problems. The global prevalence of anxiety in children was 6.5%. Children suffering from anxiety were found to have an increased risk of psychiatric disorders. If anxiety in children are left untreated, they can cause problems in adulthood resulting in significant social and economic burden for family, society and nation. In 2015, the prevalence of mental health problems among Malaysian children aged 5 to 15 were 12.1%. School offers an ideal place for an early intervention and anxiety prevention program delivered in school environment may be an effective way in minimizing common barriers to mental health services utilization among school children in clinical setting.

Objective: The objective of this study was to develop, implement and evaluate the effectiveness of a school-based anxiety prevention program among standard four and five primary school children.

Methodology: There are two phases of the study with phase one, an analytical cross-sectional study, was carried out among 739 standard 4 and 5 primary school children from 11 randomly selected government primary schools in Jerantut, Pahang. A validated, pretested self-administered questionnaire was used to collect the data on children's socio-demographic characteristic, anxiety status, emotion regulation, self-esteem, social, adaptive functioning and perfectionism level. Data were analysed by using multiple linear regression.

In phase two, the school-based anxiety prevention program was developed based on the predictors of anxiety gathered from the cross-sectional study, and Information, Motivation and Behavioural Skills (IMB) model. The school-based program comprised of four sessions. A two-group parallel cluster randomized controlled trial of a single blinded study was conducted to evaluate the effectiveness of the program, with schools as the unit of allocation and individual participants as the unit of analysis. A total of 11 primary schools were enrolled, 5 were randomly assigned to intervention schools and 6 were randomly assigned to control schools. Children from intervention schools received school-based anxiety program while children from control schools received usual curriculum class (wait-list control group). The primary outcome was symptoms of anxiety at baseline, immediately post-intervention and 3 months post-intervention which were assessed by the short version of Revised Child Anxiety and Depression Scale (RCADS 25), whereas, the secondary outcomes which were worry coping skills and self-esteem at baseline, immediately post intervention and 3 months post-intervention were measured by the Children Worry Management Scale (CWMS) and Rosenberg Self-Esteem Scale (RSES), respectively. Data were analysed by using generalised linear mixed model. The level of significance was set at $\alpha = 0.05$. Subgroup analyses were performed for children with anxiety. The SPSS version 20 was used for the data analysis. This study was approved by Ethics Committee for Research Involving Human Subjects, Universiti Putra Malaysia.

Results: The response rate of phase one was 94.7%. The results showed that the prevalence of anxiety among respondents was 6.1%. The predictors of anxiety were gender, worry regulation skill ($p=0.001$) and self-esteem ($p=0.001$). In phase two, the response rate was 89.6%. At baseline, there was no significant difference between intervention and wait-list control groups for anxiety score ($p=0.156$), worry coping skill score ($p=0.174$) and self-esteem score ($p=0.089$). The school-based anxiety prevention program was effective in reducing anxiety score for the whole sample ($F(4, 1098) = 5.887, p = 0.001$) and anxiety subgroup ($F(4, 52) = 6.704, p = 0.001$). However, it was not effective in improving worry coping skill score and self-esteem score.

Conclusion: The school-based anxiety prevention program was effective in reducing anxiety score. These findings recommend that the school-based anxiety prevention program could be implemented in the local school setting by integrating it into the school curriculum.

Keywords : Anxiety, school-based prevention, primary school, children, randomised controlled trial.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**KEBERKESANAN PROGRAM PENCEGAHAN KEBIMBANGAN
BERASASKAN SEKOLAH UNTUK KANAK-KANAK DARJAH EMPAT
DAN LIMA SEKOLAH RENDAH DI DAERAH JERANTUT, PAHANG,
MALAYSIA**

Oleh

SITI FATIMAH BINTI AB GHAFAR

Ogos 2018

Pengerusi : Profesor Sherina Mohd Sidik, PhD
Fakulti : Perubatan dan Sains Kesihatan

Latarbelakang : Sekitar 10% hingga 20% kanak-kanak dan remaja di seluruh dunia, mempunyai masalah kesihatan mental. Prevalen kebimbangan global di kalangan kanak-kanak adalah 6.5%. Kanak-kanak yang menderita kerana kebimbangan didapati berisiko tinggi terhadap gangguan psikiatri. Sekiranya kebimbangan di kalangan kanak-kanak tidak ditangani, ia boleh menyebabkan masalah pada peringkat dewasa yang mengakibatkan beban sosial dan ekonomi yang signifikan kepada keluarga, masyarakat dan negara. Pada tahun 2015, masalah kesihatan mental di kalangan kanak-kanak Malaysia berusia 5 hingga 15 tahun adalah 12.1%. Sekolah menawarkan tempat yang sesuai untuk pencegahan awal dan program pencegahan kebimbangan yang dilaksanakan di persekitaran sekolah mungkin merupakan kaedah yang berkesan dalam meminimumkan halangan yang lazim kepada penerimaan perkhidmatan kesihatan mental di kalangan kanak-kanak sekolah di klinik.

Objektif : Objektif kajian ini adalah untuk membangun, melaksanakan dan menilai keberkesanan program pencegahan kebimbangan berasaskan sekolah di kalangan kanak-kanak sekolah rendah darjah empat dan lima.

Metodologi : Terdapat dua fasa kajian dimana dalam fasa pertama, kajian keratan rentas analitik telah dijalankan di kalangan 739 kanak-kanak sekolah rendah darjah 4 dan 5 dari 11 sekolah rendah kerajaan terpilih di Jerantut, Pahang. Borang soal selidik digunakan untuk mengumpul data mengenai ciri sosio demografi kanak-kanak, status

kebimbangan, pengurusan emosi, harga diri, fungsi sosial, penyesuaian dan tahap kesempurnaan. Data dianalisis dengan menggunakan *multiple linear regression*.

Dalam fasa dua, program pencegahan kebimbangan yang berasaskan sekolah dibangunkan berdasarkan faktor-faktor kebimbangan yang diperolehi daripada kajian keratan rentas dan Model Maklumat, Motivasi dan Kemahiran Kelakuan (IMB). Program berasaskan sekolah terdiri daripada empat sesi. Kajian percubaan rawak berkelompok, selari, dua kelompok telah dijalankan untuk menilai keberkesanan program ini, dimana sekolah sebagai unit peruntukan dan peserta individu sebagai unit analisis. Sebanyak 11 sekolah rendah telah dikumpulkan, lima sekolah dimasukkan secara rawak ke dalam sekolah intervensi dan enam sekolah dimasukkan secara rawak ke dalam sekolah kawalan. Pelajar dari sekolah intervensi menerima program kebimbangan berasaskan sekolah manakala pelajar dari sekolah kawalan menerima kelas kurikulum yang normal (kumpulan kawalan senarai menunggu). Hasil utama merupakan gejala kebimbangan di peringkat permulaan kajian, sejurus selepas program intervensi dan tiga bulan selepas program intervensi diukur dengan versi pendek Skala Kanak-kanak Kebimbangan dan Depresi (RCADS 25), manakala, hasil kedua iaitu kemahiran mengatasi kerisauan dan harga diri di peringkat permulaan kajian, sejurus selepas program intervensi dan tiga bulan selepas program intervensi diukur oleh Skala Pengurusan Kebimbangan Kanak-Kanak (CWMS) dan Skala Harga Diri Rosenberg (RSES), masing-masing. Data dianalisis dengan menggunakan *generalised linear mixed model*. Tahap signifikan ditetapkan pada $\alpha = 0.05$. Analisis subkumpulan dilakukan untuk kanak-kanak yang menghadapi kebimbangan. SPSS versi 20 digunakan untuk analisis data. Kajian ini telah diluluskan oleh Jawatankuasa Etika untuk Penyelidikan Melibatkan Subjek Manusia, Universiti Putra Malaysia.

Hasil kajian : Kadar respons dalam fasa pertama adalah 94.7%. Dapatan menunjukkan bahawa prevalen kebimbangan di kalangan responden adalah 6.1%. Faktor-faktor kebimbangan adalah jantung ($p = 0.001$), kemahiran mengatasi kerisauan ($p = 0.001$) dan harga diri ($p = 0.001$). Dalam fasa dua, kadar respons adalah 89.6%. Pada peringkat permulaan kajian, tidak terdapat perbezaan yang signifikan antara kumpulan intervensi dan kumpulan kawalan bagi skor kebimbangan ($p=0.156$), skor kemahiran mengatasi kerisauan ($p=0.174$) dan skor harga diri ($p=0.089$). Program pencegahan kebimbangan berasaskan sekolah adalah berkesan dalam mengurangkan skor kebimbangan untuk keseluruhan sampel ($F(4, 1098) = 5.887, p = 0.001$) dan subkumpulan kebimbangan ($F(4, 52) = 6.704, p = 0.001$) dan tidak berkesan dalam meningkatkan skor kemahiran mengatasi kebimbangan dan skor harga diri.

Kesimpulan : Program pencegahan kebimbangan berasaskan sekolah adalah berkesan dalam mengurangkan skor kebimbangan. Penemuan ini mencadangkan program pencegahan kebimbangan berasaskan sekolah boleh dilaksanakan di sekolah setempat dengan mengintegrasikannya ke dalam kurikulum sekolah.

Kata kunci : Kebimbangan, pencegahan berasaskan sekolah, sekolah rendah, kanak-kanak, percubaan rawak terkawal.



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I certify that a Thesis Examination Committee has met on 27 August 2018 to conduct the final examination of Siti Fatimah binti Ab Ghaffar on her thesis entitled "Effectiveness of a School-Based Anxiety Prevention Program for Standard Four and Five Primary School Children in Jerantut, Pahang, Malaysia" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

Members of the Thesis Examination Committee were as follows:

Manohar a/l Arumugam, PhD

Professor
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Chairman)

Dato' Faisal bin Ibrahim, PhD

Associate Professor
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Internal Examiner)

Hejar binti Abd. Rahman, PhD

Associate Professor
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Internal Examiner)

Nadeem Qureshi, PhD

Professor
University of Nottingham
United Kingdom
(External Examiner)



RUSLI HAJI ABDULLAH, PhD

Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 31 October 2018

This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

Sherina Mohd Sidik, PhD

Professor
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Chairman)

Hamidin Awang, M.Med (Psych)

Associate Professor
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Member)

Normala Ibrahim, PhD

Associate Professor
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Member)

Lekhraj Rampal Gyanchand Rampal, PhD

Professor
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
(Member)

ROBIAH BINTI YUNUS, PhD

Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

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Signature: _____
Name of Chairman
of Supervisory
Committee: Professor Dr. Sherina Mohd Sidik

Signature: _____
Name of Member
of Supervisory
Committee: Associate Professor Dr. Hamidin Awang, M.Med (Psych)

Signature: _____
Name of Member
of Supervisory
Committee: Associate Professor Dr. Normala Ibrahim

Signature: _____
Name of Member
of Supervisory
Committee: Professor Dr. Lekhraj Rampal Gyanchand Rampal

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LIST OF ABBREVIATIONS/NOTATIONS

<	Less than
>	Greater than
\leq	Less than or equals to
\geq	Greater than or equals to
ANOVA	Analysis of variance
AO-PTS	Aussie Optimism Positive Thinking Skills
CAMS	Children's Anger Management Scale
CAPS	Child-Adolescent Perfectionism Scale
CASAFS	Child and Adolescent Social and Adaptive Functioning Scale
CBT	Cognitive Behavioural Theory
CEMS	Children's Emotion Management Scale
CI	Confidence interval
CONSORT	Consolidated Standards of Reporting Trials
CSMS	Children's Sadness Management Scale
CWMS	Children's Worry Management Scale
ECBT	Emotion-focused cognitive-behavioural treatment
FELDA	Federal Land Development Authority
GLMM	Generalised linear mixed model
HBM	Health Belief Model
IBM	International Business Machines
ICC	Intra-cluster correlation
IMB	Information, Motivation and Behavioural Model
ISPOR	International Society for Pharmacoeconomics and Outcomes Research

MASC	Multidimensional Anxiety Scale for Children
MLR	Multiple Linear Regression
MOE	The Ministry of Education
NHMS	National Health Morbidity Survey
OR	Odd ratio
PATHS	Promoting Alternative Thinking Strategies
PTSD	Post-traumatic stress disorders
RCADS	Revised Children's Anxiety and Depression Scale
RM	Ringgit Malaysia
RQC	Reporting Questionnaire for Children
RSES	Rosenberg's Self-Esteem Scale
SD	Standard deviation
SDQ	Strengths and Difficulties Questionnaire
SEL	Social and emotional learning
SJK	Sekolah Jenis Kebangsaan
SK	Sekolah Kebangsaan
SP	Social Phobia
SPSS	Statistical Package for Social Sciences
SR	Stimulus Response
US	United State
WHO	The World Health Organization
YLD	Years lived disabilities

CHAPTER 1

INTRODUCTION

1.1 Background

The World Health Organization reported that, about 264 million people in this world, which was 3.6% of the global population, lived with anxiety in 2015 (World Health Organization (WHO), 2017). Anxiety disorders are found to be one of the most common mental health disorders in both, childhood (Xiaoli et al., 2014) and adolescence (Merikangas et al., 2010). Although children are generally perceived as a healthy group, 20% of them, in any given year, experience a mental health problem and most commonly depression or anxiety (World Health Organization (WHO), 2012).

Anxiety disorders led to a global total of 24.6 million years lived disabilities (YLD) and appear in the top ten causes of YLD worldwide (World Health Organization (WHO), 2017). The global prevalence of anxiety disorders in children was 6.5% (Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015). Children suffering from anxiety were found to have an increased risk of psychiatric disorders as adults (Stein & Stein, 2008). If anxiety in children are left untreated, they can cause problems in adulthood and create a significant burden for families; and there may also be social, physical health and economic costs in adulthood.

Malaysia also has mental health problems in children, where there is an increasing trend of prevalence of mental health problems among children aged 5 to 15 years from 13.0% in 1996 (Institute for Public Health, 1997) to 20.0% in 2011 (Institute for Public Health, 2011). In 2015, emotional problems (anxiety and depression) were the third most prevalent in children aged 5 to 15 years old after peer and conduct problems (Institute for Public Health, 2015). Although anxiety problems in children in Malaysia are increasing, the ratio of psychiatrists to Malaysian population is 1: 200,000, which is far lower than the 1:10,000, recommended by the World Health Organization (WHO) and 1.4 million children with mental health problems in Malaysia did not utilize adequate mental health treatment (Peters, 2010).

The persistence of emotional disorders, such as anxiety, as well as the immediate and future burden, and the limited reach of treatment services have led to interest in alternative approaches to improve the mental health of children (Paul Stallard, 2010). School was found to be an ideal place for an early intervention for anxiety among children because it can reduce common barriers to mental health treatment in the community, such as time, location, stigmatization, transportation and cost by offering low-cost and non-threatening alternative intervention programs (Barrett & Pahl, 2006; Paul Stallard et al., 2014).

School-based anxiety prevention program refers to prevention program delivered in school environment in reducing childhood anxiety. School-based anxiety prevention programs play important role in minimizing common barriers to mental health services utilization among school children in clinical setting. School-based prevention program could be divided into three types; universal, selective and indicated (Mrazek & Haggerty, 1994). The universal school-based anxiety prevention programs target all children regardless of symptoms level, the selective school-based anxiety prevention programs target children who are at risk, whereas, the indicated school-based anxiety prevention programs target children with mild or early symptoms of anxiety. The universal school-based anxiety prevention programs have many advantages, as compared to the other types of school-based programs because it reduces time for screening (Horowitz, Garber, Ciesla, Young, & Mufson, 2007) and social stigmatization (Huggins, Davis, Rooney, & Kane, 2008).

In Malaysia, to date, there is a scarcity of universal school-based anxiety prevention program in primary schools. There is no existing school-based program for mental health among Malaysian primary school children. However, Young Doctor Club (Kelab Doktor Muda) is an educational program that only covers about mental health as a general (Ministry of Health, 2013). Mental health problem among Malaysian primary schools children has not yet one of the main components under the Young Doctor Club Program (Sutan et al., 2018).

According to Department of Statistics Malaysia, the number of enrolment in Malaysia government primary schools in 2017, was 2,673,962. This figure was higher than the number of enrolment in private primary schools (38,227) and primary schools under other government agencies (31,523) (Ministry of Education, 2017). Malaysia government primary school sector could be considered as a strategy to reduce poverty through school education programs, for examples, textbook loans, hostels, school health and milk program and supplementary food scheme (UNICEF, n.d.). Therefore, implementation of school-based anxiety prevention program in government primary school could be an advantaged because not only a large number of children but also children from low socioeconomical background families could be reach in this school setting.

Data from systematic review demonstrated that the socioeconomically disadvantaged children were two to three time more likely to develop mental health problems (Reiss, 2013) and poverty was significantly associated with common mental health problem (Lund et al., 2010). The prevalence of mental health problem in children from rural was found to be higher compared to children from urban areas (Institute for Public Health, 2015). However, only a few studies on school-based anxiety prevention programs were conducted in rural and socioeconomically disadvantaged communities (Mifsud & Rapee, 2005; C. Roberts et al., 2010; Stopa, Barrett, & Golingi, 2010). Thus, a school-based anxiety prevention program in this target group are urgently needed.

Jerantut district was chosen as the study location in this study due to its rural locality, its poverty status and convenience in terms of accessibility and logistic issues. Rural areas could be referred to as areas with people having agriculture and natural resources. The population in Pahang is mainly reliant on agriculture and natural resources (Siwar et al., 2014). In terms of poverty, a poverty mapping study in Pahang also demonstrated that the highest incidence of poverty shown in Jerantut district (28.21%) (Siwar et al., 2014). In 1956, Federal Land Development Authority (FELDA) was established to eradicate poverty through cultivation of palm oil as well as rubber. FELDA area in Pahang also known as Jengka triangular area includes three districts; Maran, Temerloh and Jerantut with the largest district being Jerantut.

There were two phases in this study. The phase one was designed to determine the prevalence of anxiety and its predictors among primary school children. To the best of our knowledge, there is no published study was conducted in Malaysia to determine the prevalence of anxiety and its predictors in primary school children. The importance of determining prevalence of anxiety in primary school children is to measure the magnitude of anxiety in primary school children and findings from the phase one on predictors of anxiety among primary school children play crucial role in order to ensure that all significant predictors of anxiety among this target group were included in the development of a school-based anxiety prevention program. In phase two, the developed school-based anxiety prevention program was implemented and evaluated.

1.2 Statement of problem

Anxiety disorder has become one of the major public health concerns, worldwide and in Malaysia. Globally, about 10 to 20% of children and adolescent had mental health problem (Kieling et al., 2011) and the global prevalence of anxiety in children was 6.5% (Polanczyk et al., 2015). In Malaysia, the prevalence of children's mental health problems is rising from 13.0% in 1996 (Institute for Public Health, 1997) to 20.0% in 2011 (Institute for Public Health, 2011). The prevalence of mental health problem in Malaysian children in 2015 was 12.2% with emotional problems (anxiety and depression) was the third most prevalent in children aged 5 to 15 years old after peer and conduct problems in 2015 (Institute for Public Health, 2015).

Children with anxiety were at high risk of developing mental health problems either during childhood or adulthood (Bittner et al., 2007; Essau, Lewinsohn, Olaya, & Seeley, 2014; Stein & Stein, 2008). Anxiety in children are found to be predictors of a range of mental health problems in adolescence, for examples, panic attacks, depression, conduct disorder and attention deficit/hyperactivity disorder (Bittner et al., 2007). In a longitudinal study, it was showed that adult major depressive disorder was predicted by childhood anxiety (OR = 1.00, 95% CI = 0.68 – 1.48) (Essau et al., 2014).

A reduction of anxiety symptoms may also reduce suicidal ideation. Studies showed that anxiety was significantly associated with suicidal ideation (Ibrahim et al., 2017) as well as suicide attempts (Bolton et al., 2008). In a multivariate analysis, anxiety symptoms was found to uniquely predict suicidal ideation ($\beta = 0.42$, $p < 0.001$) (Rodriguez & Kendall, 2014). Another study also showed that reduction of anxiety symptoms in childhood confers long-term protection from suicidality (Wolk, Kendall, & Beidas, 2015).

Majority of Malaysian children were not aware of mental health services availability in the primary health care. Moreover, though the mental health problems were not that serious, worry about the confidentiality and others' perception especially from family members and friends were the other barriers to the poor utilization of mental health services among children in Malaysia (Aida et al., 2010). Although minority of children thought that nobody can help them (Aida et al., 2010), majority of parents or carers of children with mental health problems believed that nothing could help (Moskos, Olson, Halben, & Gray, 2007). Parents' or carers' believes that such as, seeking help is a sign of weakness or failure, reluctance to admit to having mental health problems, denial of problems and too embarrassed to seek help (Moskos et al., 2007) were attitudinal barriers to mental health services among children. Cost of mental health treatment was also a barrier for the parents of children with mental health problems (García-Soriano, Rufer, Delsignore, & Weidt, 2014; Jorm, Wright, & Morgan, 2007; Murry, Heflinger, Suiter, & Brody, 2011).

School offers an ideal place for an early intervention for anxiety among children. Common barriers to utilize mental health treatment in the clinical setting, such as stigmatization, transportation and cost could be minimize by implementing school-based intervention program (Barrett & Pahl, 2006). In Malaysia, to date, there is a shortage of universal school-based anxiety prevention program in primary schools. There is no available school-based program for mental health among Malaysian primary school children. However, Young Doctor Club (Kelab Doktor Muda) only explains about mental health superficially (Ministry of Health, 2013). Mental health problems in children handled by school teachers on an ad hoc basis and has not yet one of the crucial elements under the Young Doctor Club Program (Sutan et al., 2018).

School-based programs also could reach large number of children in a short period of time and benefit high risk group population, such as children from rural and socioeconomically disadvantaged areas. According to National Health Morbidity Survey in 2015, children from rural areas (13%) had higher prevalence of mental health problems as compared to children from urban areas (11.8%) (Institute for Public Health, 2015). The earlier studies on anxiety in Malaysia were mostly conducted in adolescents (Latiffah et al., 2015) and adults from urban areas (Kader Maideen, Sherina, Rampal, & Mukhtar, 2015), which was not representative to the children population of rural areas. The findings of earlier studies in urban areas showed that the prevalence of anxiety in adolescents was 50.8% (Latiffah et al., 2015) and the prevalence of anxiety in adults was 8.2% (Kader Maideen et al., 2015).

A systematic review found that interventions based on theory were found to be more effective as compared to non-theory based interventions (Diep, Chen, Davies, Baranowski, & Baranowski, 2014). Cognitive Behaviour Theory (CBT) requires an ability to systematically identify, challenge and generate alternative ways of thinking which involves a degree of cognitive maturity and also requires an ability to engage in abstract tasks (Paul Stallard, 2002). However, according to Piaget's Cognitive Development Theory, children aged 7-12 years of age are at the concrete operational stage, which is the beginning of the logical or operational thought and still struggle with abstract ideas. Formal operation stage begins later (12 years old and above), during this time, the ability to think about abstract concepts will develop (Piaget, 1972). Therefore, children under 12 years of age were not sufficiently cognitively mature for CBT-based intervention because it is not pitched at the right level. Therefore this study used Information Motivation Behaviour (IMB) Theory which was used in a previous local study for preventing anxiety in the community (Kader Maideen et al., 2015). The components of IMB theory have accounted for 70% of the variance in behaviour change indicated as a large effect size for prediction model in the behavioural sciences (Cohen, 1988). Therefore, the application of IMB model can also be generalized in promoting other health behaviour, for examples, the usage of IMB behaviour change related to human immunodeficiency virus (HIV) (Ibrahim, Rampal, Jamil, & Mohd Zain, 2012) and sweetened beverage consumption in children (Goodell, Pierce, Amico, & Ferris, 2012).

The IMB is one of the examples of stimulus response theory, where reward was sufficient to increase the probability of health-related behaviour would be repeated. Thus, thinking concepts are not necessary to explain behaviour. Motivation construct of IMB develops positive attitude and feelings towards behavioural changes. Empathy concept was covered in order to change the children's attitude toward others' emotion and be able to offer emotional support to others. Children had learned on how to recognize emotions in others by identifying emotion cues and how to appreciate and show understanding of others' emotions.

1.3 Significance of study

This study would help to contribute to the body of knowledge on the prevalence and predictors of anxiety in primary school children in Jerantut, Pahang. The school-based anxiety prevention module if proven effective will be used for improvement in current mental health programmes, whereby:

1. Children with anxiety can be referred to the health care centres for management of their anxiety disorders.
2. The cost in providing a school-based anxiety prevention programme for the primary school children is expected to be minimal, as the programme only hinges on the existing resources, for examples, the classroom and other school facilities.

1.4 Research questions

This study were guided by two main research questions as stated below:

1. What are the prevalence of anxiety disorders and its predictors in primary school children in Jerantut, Pahang?
2. Does school-based anxiety prevention program for primary school children effective in decreasing the children's anxiety score, increasing worry coping skill score and increasing self-esteem score?

1.5 Research objectives

1.5.1 Phase one

1.5.1.1 General objective

The general objective of phase one of this study was to determine the prevalence of anxiety and predictors among primary school children in Jerantut, Pahang.

1.5.1.2 Specific objectives

The specific objectives of phase one of this study were to:

1. Determine the socio-demographic characteristics such as age, gender and ethnicity of the primary school children in Jerantut, Pahang.
2. Determine the prevalence of anxiety among primary school children in Jerantut, Pahang.
3. Determine the predictors of anxiety among primary school children in Jerantut, Pahang.

1.5.2 Phase two

1.5.2.1 General objective

The general objective of phase two of this study was to develop, implement and evaluate the effectiveness of a school-based anxiety prevention program among primary school children in Jerantut, Pahang.

1.5.2.2 Specific objectives

The specific objectives of phase two of this study were:

1. To develop and implement a school-based anxiety prevention program among primary school children in Jerantut, Pahang.
2. To determine sociodemographic factors (age, gender and ethnicity) at baseline.
3. To determine the outcome measures (anxiety, worry coping skill and self-esteem) of the participants in the intervention and control group at baseline.
4. To evaluate the effectiveness of the intervention (between and within groups) for the whole sample; at immediate post-intervention and 3 month post-intervention on:
 - a. Anxiety (Information components of IMB)
 - b. Worry coping skill (Behavioural skill component of IMB)
 - c. Self-esteem (Behavioural skill component of IMB)
5. To evaluate the effectiveness of the intervention (between and within groups) for the anxiety subgroup at immediate post-intervention and 3 month post-intervention on anxiety score.

1.6 Research hypotheses

1. The school-based anxiety prevention program is effective in decreasing anxiety scores of primary school children in Jerantut, Pahang.
2. The school-based anxiety prevention program is effective in increasing worry coping skill scores of primary school children in Jerantut, Pahang.
3. The school-based anxiety prevention program is effective in increasing self-esteem scores of primary school children in Jerantut, Pahang.

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