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A study to evaluate the effectiveness of planned teaching programme on knowledge regarding developmental delay among mothers of preschool children admitted at selected hospital Belgaum, Karnataka

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ABSTRACT

A study to evaluate the effectiveness of planned teaching programme on knowledge regarding developmental delay among mothers of preschool children admitted at selected hospital Belgaum, Karnataka. The objectives of the study were Assess the knowledge regarding developmental delay among the mothers of preschool children. Assess the effectiveness of planned teaching programme on knowledge regarding developmental delay among mothers of preschool children. To find out the association between the knowledge of mothers of preschool children with their socio demographic variables Hypothesis: H1: There will be post test knowledge scores of preschool mothers are higher than the pre test knowledge scores. H2: There will be significant association between pre test knowledge scores regarding developmental delay among mothers of preschool children with their selected demographic variables. At 0.05 level of significance. A Pre-experimental research design was used. The investigators selected 40 mothers of selected Hospital, Belgaum. Findings related to existing knowledge regarding developmental delay among mothers of preschool children. Pre test level of knowledge of mother of preschool children reveals that (15%) 6 of the mothers are having good knowledge,27(67.5%) had average knowledge and remaining 7(17.5%) had poor knowledge. The present study was consistent as to assess the adjusting knowledge on developmental delay. Findings related to association between pre test knowledge scores regarding developmental delay among mothers of preschool children with their demographic variables. Study findings reveals that there is significant association between pre test knowledge score of the mothers and demographic variable like age of mother, educational status of mother, occupation of mother, ($P<0.05$). Hence H1 was accepted.

Introduction

As a child grows and develops, he learns different skills, such as taking a first step, smiling for the first time, or waving goodbye. These skills are known as developmental milestones. There is normal variation around what age children will achieve a specific developmental milestone. Developmental delay refers to a child who is not achieving milestones within the age range of that normal variability. Most often, at least initially, it is difficult or impossible to determine whether the delay is a marker of a long-term issue with development or learning (i.e. known as a disability) or whether the child will 'catch-up' and be 'typical' in their development and learning.

There are five main groups of skills that make up the developmental milestones. A child may have a developmental delay in one or more of these areas

Gross motor

Using large groups of muscles to sit, stand, walk, run, etc., keeping balance and changing positions.

Fine motor

Using hands and fingers to be able to eat, draw, dress, play, write and do many other things.

Language

Speaking, using body language and gestures, communicating and understanding what others say.

Cognitive

Thinking skills including learning, understanding, problem-solving, reasoning and remembering.

Social

Interacting with others, having relationships with family, friends, and teachers, cooperating and responding to the feelings of others.

Usually, there is an age range of several months where a child is expected to learn these new skills. If the normal age range for walking is 9 to 15 months, and a child still isn't walking by 20 months, this would be considered a developmental delay (2 standard deviations below the mean). A delay in one area of development may be accompanied by a delay in another area. For example, if there is a difficulty in speech and language, a delay in other.

Children with global developmental delay often develop learning, behavioral, or emotional problems and may be at higher risk for other health problems.[5] It has been reported that

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developmental delay in some children can be improved with early identification and early intervention.[256] Interventions can include parenting programs, early learning centers, speech and language programs, and physical or occupational therapy.[78] Interventions may influence school readiness, which in turn could increase rate of high school graduation, which in turn could increase employability.[910] Finally, lower IQ is associated with higher all-cause mortality—raising the hypothesis that interventions which increase IQ may also lead to reduced mortality in adulthood.[11]

This protocol will be used to develop a systematic review to support recommendations on screening for developmental delay in children aged 1 to 4 years in a primary care setting, as infants younger than 1 year are unlikely to be assessed for developmental delay.

Need for the Study

A 2001 Statistics Canada report stated that developmental delay is the most common disability in children aged 0 to 4 years in Canada, with 1.1% experiencing developmental delay.[1] More recent surveys suggest that 1% to 3% of children are affected with global developmental delay and 5–10% have a delay in a single domain.[23]

Developmental delay is a delay in any one of the four developmental domains, whereas global developmental delay in early childhood is defined as a significant delay (ie: ≥ 25% or 1.5–2 standard deviations discrepancy from age-expected milestones) in two or more of the four main developmental domains

1. gross and fine motor skills, speech and language,
2. social and personal and activities of daily living, and
3. Performance and cognition.[2]

Developmental disabilities are relatively common in children, with a 5-10%prevelance. GDD is estimated to be prevalent in 1-3% children <5 yrs and it is estimated that between 40,000-120,000 children born each year in the U.S.A and Canada will manifest GDD. There are many possible causes for the clinical pictures of GDD and some causes are treatable. Therefore early recognition and diagnosis is important. In addition, some of the aetiologies are genetically transmitted and may affect future family members.

An underlying aetiology can be identified in approx 25% of cases of developmental delay with higher rates (50%) in GDD and motor delays, and lower rates (<5%) in children with isolated language disorders.

Screening for developmental delay was identified by family physicians as a topic of interest, especially because there is a perceived lack of resources available for interventions directed at management of developmental delay. Such interventions could be either initiated or monitored at the level of primary care. In addition, timely access to consultation for children identified with possible development delay remains an ongoing challenge for family physicians.

Objectives

Statement of the problem

"A study to evaluate the effectiveness of planned teaching programme on knowledge regarding developmental delay among mothers of preschool children admitted at selected hospital Belgaum, Karnataka"

Objectives of the Study

1. Assess the knowledge regarding developmental delay among the mother of preschool children.
2. Assess the effectiveness of planned teaching programme on knowledge regarding developmental delay among mothers of preschool children.
3. To find out the association between the knowledge of mothers of preschool children with their socio demographic variables

Operational Definitions

Assess

Statistical measurement of knowledge among mothers of preschool children regarding developmental delay.

Knowledge

It refers to the written response of the mothers to the items in the questionnaire regarding developmental delay in preschool children

Effectiveness

It refers to determine the extent to which the information in the Planned Teaching Programme (PTP) has achieved the desired outcome by gain in knowledge scores

Planned Teaching Programme (PTP)

It refers to the verbal material used for teaching which will be prepared by using lecture-cum discussion and A.V aids. It is intended to provide knowledge regarding developmental delay among mothers of preschool children with regards to:

- Introduction
- Definition of developmental delay
- Causes of developmental delay
- Factors affecting developmental delay
- Symptoms of developmental delay
- Management of developmental delay

Management

Taking proper care of child suffering from developmental delay in order to avoid further complications.

Developmental delay

Developmental delay is a descriptive term used when a young child's development is delayed in one or more areas compared to other children.

Mothers

It refers to mothers who have preschool children.

Preschool child

A preschool child between 3 to 5 years of age.

Selected Hospital

KLE'S Dr.Prabhakar Kore Charitable Hospital Belagavi. Karnataka

Assumptions

1)The mothers may have inadequate knowledge about developmental delay among preschool children.

2)The planned teaching programme may enhance the knowledge of mothers regarding developmental delay among preschool children's.

Hypotheses

H1: There will be post test knowledge scores of preschool mothers are higher than the pre test knowledge scores

H_2: There will be significant association between pre test knowledge scores regarding developmental delay among mothers of preschool children with their selected demographic variables.

At 0.05 level of significance

Delimitations

- The study sample was delimited to 40 samples
- The study was delimited to selected Hospitals in Belgaum.

Review of Literature

Review of literature is a key in research process and it refers to extensive, exhaustive and systematic examination of publication relevant to research project. It involves the identification, selection, critical analysis and reporting of existing information on the topic. Review will acquaints the researcher with what has been done in the field, it minimizes the possibility of unintentional duplications.[13]

A review of literature pertaining to the present study aimed to assess knowledge regarding developmental delay among mothers of preschool children

The Deciphering Developmental Disorders study is using whole exome sequencing in family trios to investigate children with severe, sporadic, undiagnosed developmental delay. Three of our patients were ascertained from the first 1133 children to have been investigated through this large-scale study. Case 4 was a phenotypically isolated case recruited into an undiagnosed rare disorders sequencing study.These findings provide definitive evidence for the role of PURA in causing a variable syndrome of neurodevelopmental delay, learning disability, neonatal hypotonia, feeding difficulties, abnormal movements and epilepsy in humans, and help clarify the role of PURA in the previously described 5q31.3 microdeletion phenotype. (Hunt D1, Leventer RJ2, Simons C3, Taft R4, Swoboda KJ5, Gawne-Cain M6; DDD study, Magee AC7, Turnpenny PD8, Baralle D9. 2.

Copy number variants (CNVs) are associated with many neurocognitive disorders; however, these events are typically large, and the underlying causative genes are unclear. We created an expanded CNV morbidity map from 29,085 children with developmental delay in comparison to 19,584 healthy controls, identifying 70 significant CNVs. We resequenced 26 candidate genes in 4,716 additional cases with developmental delay or autism and 2,193 controls. An integrated analysis of CNV and single-nucleotide variant (SNV) data pinpointed 10 genes enriched for putative loss of function. Follow-up of a subset of affected individuals identified new clinical subtypes of pediatric disease and the genes responsible for disease-associated CNVs. These genetic changes include haploinsufficiency of SETBP1 associated with intellectual disability and loss of expressive language and truncations of ZMYND11 in individuals with autism, aggression and complex neuropsychiatric features. This combined CNV and SNV approach facilitates the rapid discovery of new syndromes and genes involved in neuropsychiatric disease despite extensive genetic heterogeneity(Coe BP1, Witherspoon K1, Rosenfeld JA2, van Bon BW3, Vulto-van Silfhout AT4, Bosco P5,3.

Research Methodology

The methodology of research study is defined as "the way the pertinent information is gathered in order to answer the research question or analyze the research problem. It enables the researcher to project a blue print of the research under taken". Research methodology involves a systematic procedure by which the research starts from the initial identification of the problem to its final conclusion.[26]

A research overall plan for obtaining answers to the research question or for testing the research hypothesis is referred to as the research design. The research design spells out the basic strategies that researcher adopts to develop evidence that is accurate and interpretable.[13]

The present study was conducted to assess regarding knowledge on developmental delay among the mothers of preschool children admitted at selected Hospitals in Belgaum.

Research approach

The research approach covers the basic procedure for conducting research. The selection of research approach is the basic procedure of the researcher, the research approach helps the researcher to determine what data to collect and how to analysis it. It also suggests possible conclusion to be drawn from the data.[27]

In the view of nature of the problem selected for the present study to assess knowledge on developmental delay among mother of preschool children.

Research design

Research design is a plan, structure, and strategy of investigation of answering the research question. Research design is the overall plan of blue print.[28]

One group pre test and post test research design which belongs to Pre-experimental research design was selected to assess the knowledge of mothers of preschool children on developmental delay.

O1 = Pre- test knowledge score before introducing the intervention

X = Intervention (Planned Teaching Program)

O2=Post-test knowledge score after seven days of introducing the intervention

Variables under the Study

In quantitative studies, concepts are usually referred to as variables which are the central building blocks of the studies.

The present study aimed at understanding effectiveness of an intervention.

Independent variable

The independent variable is the variable that is believed to influence or cause the dependent variable.

In the present study independent variable is Planned Teaching Program on developmental delay.

Dependent variable

It is the outcome of a criterion that is hypothesized to be caused by another variable

In the present study dependent variable is knowledge of mothers of preschool children.

The extraneous variables considered are as follows

Age, occupation, education

Research setting

Setting is a physical location and condition in which data collection takes place in a study.[29]The main study was conducted in selected Hospital in Belgaum.

Population

Population refers to the complete set of observation (or) measurements about which we would like to draw conclusions.[13]

The populations for the present study were all the mothers who have preschool children.

Sample and sampling technique

Sample

Sample is a selected proportion of the defined population it is subset of a population of interest.

The sample for the study comprised of mothers of preschool children.

Sample size and Sampling technique

40 mother's of preschool children. Non probability purposive sampling technique was used for the present study.

Description of the tool

The structured knowledge comprised of two parts

Part 1

Contains the demographic data "3"items and

Part 2

Contains 27 questions related to developmental delay

Procedure of the data collection

The data was collected from 20-11-2014 to 27-11-2014. On day on the purpose of study was explained to the mothers of preschool children and an oral consent was taken before starting the study.

All the mothers of preschool children were requested to assemble and Pre-test was conducted by administering a structured interview schedule to the mothers of infant. Each mother of preschool children was requested to complete their response of interview with in 40 minutes.

The method used for data collection was as follows

1. The research investigator introduced herself and explained purposes of the study to the mothers
2. The return consent was obtained by the mothers
3. The pre test included assessment of mothers' knowledge through structured knowledge questionnaire.
4. Planned teaching programme was administered at the end of the pre test.
5. The post test of the study was carried out after 7 days of pre test by using structured knowledge questionnaire used in pre test.
6. Data collected was then tabulated and analyzed
7. Planned for data analysis.

Data analysis plan

The data obtained were analyzed in terms of objectives of the study using descriptive and inferential statistics. The plan for data analysis was as follows:-

a) Mother's demographic data would be analyzed in terms of frequencies and percentage and presented in graphical form.

b) classifying the knowledge, by using mean median and standard deviation as follows:

Classification of knowledge score was done as shown below

($\overline{X}$ + SD) = Good knowledge Score

($\overline{X}$ + SD) - ($\overline{X}$ –SD) = Average knowledge Score

($\overline{X}$ + SD) = Poor knowledge Score

A score of '1' was given to all correct answers while a score of '0' was given to all incorrect answers.

c) Inferential statistics were used to draw the following conclusion: Chi-square test to find the association between knowledge and selected baseline data for testing the research hypothesis.

Scoring procedure

There was 40 items pertaining to the knowledge of mother regarding developmental delay among mothers of preschool children.

Each item had 4 options, where there will be only one appropriate right answer. The maximum score for the each correct response was 'one' and for wrong response 'zero'. The level of knowledge was categorized based on the percentage of score obtained.

Table no 1. Scoring the level of knowledge of pre test

Level of knowledge	Score
Good ($\overline{X}$+SD)	11-27
Average($\overline{X}$+SD to X-SD)	5-11
Poor(X+SD)	<5

Table no.2. Scoring of level of knowledge of post test

Level of knowledge	Score
Good ($\overline{X}$+SD)	21-27
Average($\overline{X}$+SD to X-SD)	17-21
Poor(X+SD)	<17

Results

This chapter deals with the analysis and interpretation of data collected from 40 mothers of preschool children in selected, in order to hospital, the knowledge on the developmental delay.The purpose of the analysis is to reduce the data to a manageable and interpretable form, so that the research problem can be studied and tested.

The data collected were analyzed according to the plan for data analysis which includes both descriptive and inferential statistics. The data findings have been tabulated according to the plan for data analysis and interpreted under the following objectives:

1. Assess the knowledge regarding developmental delay among the mother of preschool children.
2. Assess the effectiveness of planned teaching programme on knowledge regarding developmental delay among mothers of preschool children.
3. To find out the association between the knowledge of mothers of preschool children with their socio demographic variables.

Presentation of data

The data obtained were entered in a master data sheet for tabulation and statistical processing. The analysis of data is organized and presented under the following sections:

Section I

Demographic variables of mothers

Distribution of subjects according to sample characteristics

Section II

Assessment of knowledge of mothers regarding developmental delay

1) Frequency and percentage distribution of pre-test level of knowledge mothers of preschool children.
2) Pre test overall knowledge score on developmental delay.
3) Distribution of mothers according to Pre Test Level of Knowledge.

Section III

Association between pre test Level of Knowledge and their Demographic Variables

Evaluation of the effectiveness of planned teaching programme on knowledge of mothers of preschool children regarding developmental delay.

Section IV

Analysis and interpretation of data to find out an association between pretest knowledge scores of mothers of preschool children with selected demographic variables.

Section - I

Distribution of the subjects according to socio-demographic variables

n=40

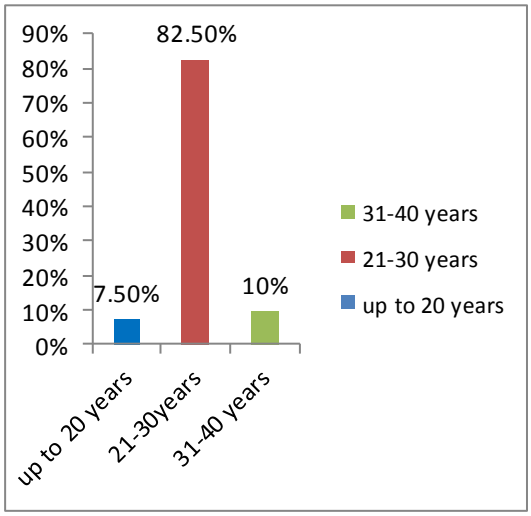

Figure 1. Bar diagram showing distribution of the mothers according to their ages

n=40

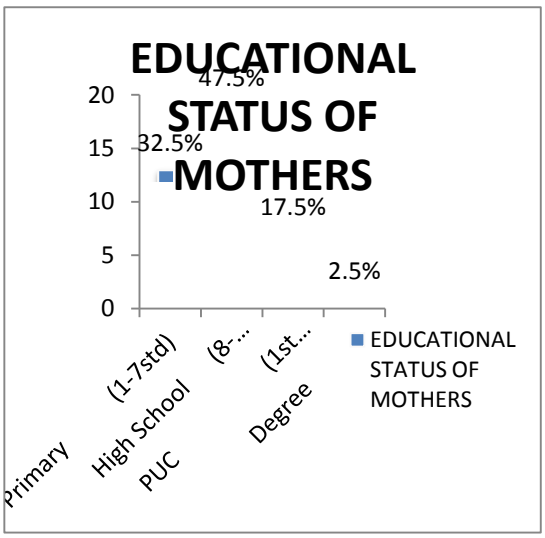

Figure 2. diagram showing distribution of the subjects according to their education of mother

n=40

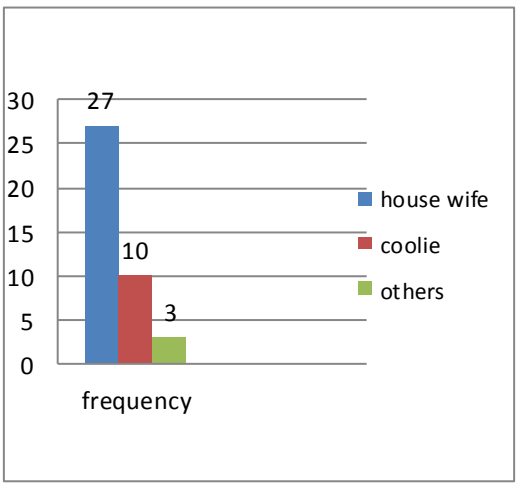

Figure 3. Bar graph showing distribution of the subjects according to their occupation of mother

Section – II

Finding on knowledge score of mothers of preschool children regarding developmental delay

Table no 6. Mean, median, mode, standard deviation, and range of knowledge score of mothers of preschool children regarding developmental delay

Area of analysis	Mean	Median	Mode	Standard deviation	Range (H-L)
Pre-test	7.52	7.5	7	2.85	13
Post test	18.95	19	19	1.73	5
Difference	11.43	11.5	12	1.12	8

Table no 6 reveals that in the pre-test mean was 7.52, standard deviation 2.85, whereas in post test mean was 18.95 and standard deviation was 1.73

Table no. 7. Frequency and percentage (%) distribution of Pre-test knowledge score of mothers of preschool children regarding developmental delay.

n=40

Scores	Score range	Frequency	Percentage (%)
Good (Mean +SD)	11-27	6	15%
Average (Mean-SD to Mean +SD)	5-11	27	67.5%
Poor (Mean-SD)	<5	7	17.5%

Table no 7: Reveals that in pre-test majority of the mothers 27(67.5%) had average knowledge, 6(15%) had good knowledge, and 7(17.5%) had poor knowledge.

Table no. 8. Frequency and percentage (%) distribution of Post test knowledge scores of mothers of preschool children regarding developmental delay

Scores	Score range	Frequency	Percentage (%)
Good (Mean +SD)	21-27	9	22.5%
Average(Mean-SD to Mean +SD)	17-21	31	77.5%
Poor (Mean-SD)	<17	00	00

Table no. 8: Reveals that in the post test 9(22.5%) mothers had good knowledge score.31 (77.5%) had average knowledge score.

Pre Test and Post Test Knowledge Scores

Table no 9. Pre-test and post test percentage of knowledge scores of mothers of preschool children regarding developmental delay

Items on	Total score	Pre test (X)	Post test (Y)	Gain in knowledge
Knowledge of mothers of preschool children on developmental delay	1080	27.87%	70.18%	42.31%

Table 9: Reveals that the percentage of gain in knowledge of mothers of preschool children regarding developmental delay was 42.31%.

Section – III

Evaluation of the effectiveness of planned teaching programme on knowledge regarding developmental delay.

H_1: The mean post-test knowledge scores will be higher than the mean pre-test knowledge scores at 0.05 level of significance.

Testing of hypothesis

Table no 10. Mean difference, standard error difference (SED) and paired' values of knowledge score of mothers of preschool children.

n=40

Mean difference	Standard error difference (SED)	Paired 't' value	
		Calculated Value	Table value at 49 degree of freedom
11.43	0.54	21.095	1.98

* (P<0.05)

Table 10 reveals that the calculated paired' value (t=21.095) is greater than tabulated't' value (t=). Hence H_1 is accepted,

Conclusion

The study was undertaken to assess the knowledge on developmental delay among mothers of preschool children.

The conclusion drawn on the basis of the findings of the study includes

In the pre-test majority of mothers 27(67.5%) are found with average knowledge, 6 (15%) of them with good knowledge and 7(17.5%) have good knowledge.

Nursing Implications

The findings of the present study have implication in the field of nursing education, nursing practice, nursing administration and nursing research.

Nursing Education

According to study, mothers of preschool children were having limited knowledge regarding developmental delay. Nursing education should focus on giving education to mothers regarding various aspects of development of the children. Education should focus not only on causes, signs symptoms but also on preventive measures. As nurse educator, there are abundant opportunities for nursing professionals to educate the mothers of preschool children regarding developmental delay seen in preschool children. It can be carried out in both clinical and community settings. Every staff and student should be encouraged to teach the mothers regarding developmental delay in preschool children.

Nursing Practice

Present study would indirectly help the nurses to understand the knowledge of mothers regarding developmental delay in preschool children. The findings suggest that there is an increased need for awareness program regarding developmental delay among preschool children hospital settings. Present study would also help the nurses working in Maternity and Pediatric units.

The teaching programme developed by the investigator can be used by nurses to educate the mothers regarding developmental delay among preschool children.

Nursing Administration

The nurse administrator should take part in health policy making, developing protocol and standing orders related to developmental delay. The nurse administrator should concentrate on raising the knowledge of mothers regarding developmental delay. Nurse administrators should on the proper selection, placement and effective utilization of the nurses in pediatric, maternity units of hospitals giving opportunity to nurses for educating the mothers regarding developmental delay.

Nursing research

Research provides nurses the credibility to influence decision making, policy and protocol formulation regarding interventional strategies to meet the specific need for educating mothers of preschool children regarding developmental delay. This study helps the nurse researchers to develop teaching protocol for developmental delay. The study high lights the knowledge of mothers of preschool children regarding developmental delay .There is lot of opportunity to researcher to add knowledge to the nursing profession. Large scale studies can be conducted by following various methods of research.

Limitations of the study

- The study is limited to the 40 mothers.
- Study is limited to assessment of knowledge regarding developmental delay among mothers of preschool children
- Difficulty in communicating with their mother tongue.

Table no 11. Association between the existing pre-test knowledge scores mother's of preschool children with demographic variables. **n=40**

SI. No.	Variables	Good	Average	Poor	Chi-square(χ^2)		
					Calculated	Tabulated	df
1	Age of the mother in years						
	○ Upto20	0	6	6			
	○ 21 – 30	0	12	11	4.50 NS	9.49	4
	○ 31 – 40	0	4	1			
	○ Above 41	0	0	0			
2	Education of mother						
	○ Primary	0	11	10			
	○ High school	0	6	4	21.78 S	11.07	5
	○ PUC ○ Degree	0	4	1			
		0	1	3			
3	Occupation of the mother						
	○ House wife	0	9	10	4.40NS	9.49	4
	○ Coolie ○ Other	0 1	12 2	9 0			

Chi-square calculated value is greater than Chi-square tabulated value, here there is significant association between Education and pre test knowledge score of mothers of preschool children.

Chi-square calculated value is less than Chi-square tabulated value hence there is no significant association between age, occupation and pre test knowledge score of preschool children mothers.

Recommendations

On the basis of the findings of the study the following recommendations have been made.

- A similar study can be replicated on a large sample to generalize the findings.
- The study can be conducted in various settings.
- An experimental study can be undertaken with control group for effective comparison.

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14. Social Welfare Department 2343 2255 www.swd.gov.hk
15. Education Bureau (24-Hour Hotline) Special Education and Special Schools Special Education Resource Centre 2891 0088 http://serc.edb.gov.hk Other Organizations.