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Effect of Instruction Module on Mothers' Knowledge and Coping Patterns Regarding Care of Children with Mental Retardation

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Abstract
Background: Mental retardation is a life-long disability and has a major impact on the lives of the children and mothers. Caring child with mental retardation affects several aspects of mother's life negatively including poor physical and emotional state. **Aim:** Evaluate the effect of instruction module on mothers' knowledge and coping patterns regarding care of children with mental retardation. **Research design:** This study utilized a quasi-experimental (pre/post-test) design. **Settings:** Psychiatric Outpatient Clinics in Children's Hospital affiliated to Ain Shams University. And outpatient clinics for children at the Psychiatric Mental Health Hospital in Benha City, Qalubia Governorate. **Tools of data collection: Tool (1):** A structured interviewing questionnaire (pre/post): It was divided into two main parts: **Part (1):** Characteristics of the study subjects, and **Part (2):** Mothers' knowledge regarding mental retardation **Tool (2):** Self-reliance Assessment. **Tool (3):** Coping patterns scale. **Results:** There was a highly statistical significant difference (P value <0.001) between pre, immediate post application of the instruction module in relation to mothers' total knowledge, self-reliance assessment, and coping patterns regarding care of children with mental retardation. **Conclusion:** There were highly statistical positive correlation between total level of the mothers' knowledge, self-reliance assessment and coping strategies at post instruction module phase. **Recommendations:** provide ongoing educational initiatives aimed at enhancing the understanding of mothers with children experiencing mental retardation, ensuring they acquire sufficient knowledge and practical skills, and enhancing patterns of coping strategies.

Keywords: Children, Coping Patterns, Instruction Module, Mental Retardation & Mothers' Knowledge

Introduction
The World Health Organization continues to refer to the condition as "mental retardation," the American Psychiatric Association now refers to it as "intellectual disability." Typical signs of mental retardation consist of: failure to meet the motor developmental milestones of sitting, crawling, and walking, or delays in doing so; delayed speech and trouble using language once child start speaking. Challenges with self-help and self-care abilities, such as feeding oneself, cleaning and dressing oneself, and undressing. **(Al Mosawi, 2020).**

Mental retardation (MR) is a source of pain to many families. The idea of MR is considered one of the serious problems that gravelly concern the government in Egypt as well as all over the world, it can be found as back in history as around and fifty-four mentally retarded children in Egypt **(World Health Statistics, 2015).** Intellectual disability (ID) involves significant limitations in both intellectual functioning and adaptive behavior, which includes many social and practical skills requiring special care and rehabilitation. Although MR is not a disease, children with MR show many health problems, due to these health problems, they need more care and are hospitalized frequently **(Lindgren et al., 2021).**

Intellectual disability, commonly referred to as mental retardation (MR), poses emotional challenges for numerous mothers. The concept of MR is recognized as a significant global issue that deeply troubles governments, including that of Egypt. Historical records indicate around 1.5% mentally retarded children in Egypt as of 2023 **(Metwally et al., 2023)**

Addressing intellectual disability in children necessitates a comprehensive approach, encompassing various aspects of their lives. This includes focusing on their health, education, engagement in social and recreational activities, addressing behavioral problems, and managing associated impairments. Additionally, providing support for mothers and siblings is crucial in the overall management of intellectual disability **(Wakimizu et al., 2018).**

The healthcare team provider needs to rapidly and accurately record the diagnosis, assessment, services given, and follow-up plans **(Lee et al., 2023).** Nurses have a vital role caring of children with mental retardation, and therefore, nurses ought to be equipped to provide all kinds of care, including interventions for early disability detection and prevention. Mothers should take on a number of

different roles and act as educators, consultants, advocates, and decision makers in addition to providing care for mentally retarded children **(Whiting et al., 2019).**

Ascertaining the level of burden experienced by mothers of children with intellectual disabilities is crucial in order to identify coping mechanisms and offer professional support to mothers who experience such problems. Mothers of disabled children will experience a sense of community and be able to access expert assistance for the problems that they face **(Hosny et al., 2020).**

Significant of the study:

Worldwide, the occurrence of intellectual disability is estimated to be around 16 per 1,000 people in low-income countries, 15 per 1,000 in middle-income countries, and 9.21 per 1,000 in high-income countries. In general, boys are more likely to have mild mental retardation than girls, with a ratio of 2 to 1. **(Elmasry et al., 2020).**

According to statistical data of historical records indicate around 1.5% mentally retarded children in Egypt as of 2023 **(Metwally et al., 2023).** The mothers are completely unsettled by the presence of a mentally challenged child. Mothers are somewhat taken aback by stress at first and respond with sadness, hopelessness, remorse, embarrassment, and a lack of confidence in their own abilities **(Mukesh et al., 2015).** Therefore, the researcher offer the instructional module to decrease the mother's burden of care lowered their mentally ill children and make her to feel sense of wellbeing and psychological satisfaction.

Operational Definitions:

- An instructional module stands out as a widely employed tool that acknowledges various teaching and learning techniques. It serves as an independent unit of instruction designed to help learners attain specific objectives.
- Coping patterns refer to the thoughts and behaviors employed to navigate internal and external stressful situations.

Aim of the study:

To evaluate the effect of instruction module on mothers' knowledge and coping patterns regarding care of children with mental retardation.

Research Hypotheses:

- The mothers' knowledge regarding mental retardation is expected to be improved after the implementation of instruction module.
- The mothers' coping patterns for their children with mental retardation are expected to be improved after the implementation of instruction module.

Subjects and Methods

Technical design:

Research Design:

A quasi- experimental design was utilized to conduct the study.

Research Settings:

This study conducted at Psychiatric Outpatient Clinics in Children's Hospital affiliated to Ain Shams University. and outpatient clinics for children at the Psychiatric Mental Health Hospital in Benha City, Qalubia Governorate, which is affiliated to General Secretariat of Mental Health in Egypt.

Research Subjects:

Sample type and size:

A purposive sample consisted of 60 mothers accompanied their children diagnosed with mental retardation were determined based on specific inclusion criteria.

Inclusion Criteria:

The study subject was selected according to the following inclusion criteria:

1- Mothers were available at the time of data collection.
2- Mothers willing to participate in study.
3- Children diagnosed with mental retardation aged from 9-18 years.

Exclusion criteria

1- Mothers who suffering from psychotic disorders
2- Mothers who cannot consent for participation in the study

Tools for data collection (pre/post):

Data were collected using the following tools for the purpose of the study:

Tool (I): A structured interviewing Questionnaire:

The design was determined after an in-depth review of relevant literature, and has undergone scrutiny by supervisors. It is written in Arabic to facilitate data collection and comprises four distinct parts:

Part (I): It concerned with characteristics of the study subjects, as follows:

Personal Characteristics of the studied mothers which included: Age, level of education, occupation, residence, consanguinity relationship between mother and father, number of family members, anyone in the family suffering from mental retardation. It consisted of 6 questions.

a. Personal Characteristics of the studied children's which included: Age, gender, ranking, and level of education, Intelligence Quotient (IQ), go to school regularly and the level of his educational attainment at school. It consisted of 7 questions.

b. Previous obstetric history of the studied mothers which included:

Maternal age during pregnancy, mother complain of any health problems during pregnancy, exposed to radiation during pregnancy, mother

takes any medications without consulting the doctor, Periodic follow-up and health care during pregnancy. It consisted of 5 questions.

The medical history of the affected child which included: Type of childbirth is the affected child, neonate crying late after birth, the child suffers from health problems during the first 4 weeks of the child's life. The symptoms appear in the child, child exposed to the following diseases during childhood, speech sessions for the child and keep the dates of these sessions. It consisted of 8 questions.

Part (II): Mothers' knowledge regarding mental retardation:

It was designed by the researcher based on literature review to assess mothers' knowledge regarding care of theirchildren with mental retardation (pre-post) and written in the form of multiple-choice questions included mothers knowledge about: Definition, risk factors, reasons that may lead to mental retardation during pregnancy, causes of mental retardation during and immediately after birth, causes of mental retardation during early childhood, degree, symptoms, diagnosis, complications, treatment and ways of dealing. It consisted of 11 multiple choice questions.

Scoring system:

Mothers' answers were checked with the model key answer and scored as 1 for the "correct answer" and zero for "incorrect or unknown answer". Total knowledge scores ranged from 0- 11 points

Scores of questionnaire were summed up and accordingly **Total scoring system divided into:**

- Satisfactory knowledge, if score ≥ 60%.
- Unsatisfactory knowledge, if score <60%.

Tool (II): Self-reliance Assessment: The researchers devised the assessment tool, building upon the work of **Ahmed et al. (2022),** to gauge the level of independence among children with mental retardation in their daily living activities, as reported by their mothers. This tool encompasses eight items, namely Nutrition, Mobility, Walking, Clothing, Bathing, Evacuation, Contact with others, and Mouth Care.

Scoring system:

Each daily activity item is assigned a score corresponding to the level of dependency: full dependence (1), partial dependence (2), and independence (3). The cumulative score for daily activities performance ranges from 0 to 24. Interpretation of the scores is as follows: a score from 0 to less than 50% denotes full dependence, 50% to less than 75% indicates partial dependence, and a score of 75% to 100% is considered indicative of independence.

Tool (III): Coping patterns scale: The coping strategies scale utilized in this study was adapted from **Flaherty & Glidden (2000)** and further adjusted by the researchers to align with the study's context. The scale was translated into simplified Arabic language. To ensure its appropriateness, content validity was rigorously evaluated and confirmed by an expert consultant before its implementation. The scale encompasses 40 statements, encompassing various dimensions of coping, including physical, psychological, social, emotional, educational, and religious coping strategies.

Scoring system: The Mother's Coping Scale has a total optimal score of 80, with each question rated on a 3-point scale: 'usually' (1 point), 'sometimes' (2 points), and 'never' (3 points). The questionnaire includes reverse-scored items, ensuring that higher scores consistently indicate challenges in coping. The rating scale comprises 40 statements distributed across six subscales: 8 for physical coping, 7 for psychological coping, 7 for social coping, 4 for emotional coping, 9 for educational coping, and 5 for religious coping. The total coping score is calculated, ranging from 40 to 120, where the minimum score is 40 and the maximum is 120.

Total scoring system divided into:

- Negative coping pattern was scoring (< 60%).
- Positive coping pattern was scoring (≥60%).

Operational design:

The operational design included: preparatory phase, content validity, reliability of tool, pilot study and field work.

The preparatory phase

This phase involved an extensive review of the related literature, encompassing various studies related to mental retardation and theoretical knowledge relevant to different aspects of the study. Textbooks, evidence-based articles, the internet, periodicals, and journals were consulted to develop research tools and gain familiarity with various dimensions of the research problems. This comprehensive literature review served as the foundation for informing the study design, shaping the research questions, and ensuring that the study was built upon a solid theoretical and empirical framework.

Content validity:

The tools' validity was appraised by a panel of three experts in Pediatric Nursing from the Faculties of Nursing at Benha University and Ain-Shams University. This assessment aimed to evaluate the content validity of the instruments concerning clarity, comprehensiveness, relevance, simplicity, and accuracy. All experts' remarks were carefully considered and some items were rephrased in order to reach the ultimate version of the tools, which were acknowledged as valid by the experts.

Reliability:

The researchers evaluated the reliability of the tools by conducting internal consistency tests, which involved administering the same instruments to identical subjects under comparable conditions. Cronbach's alpha coefficient was employed to assess the internal consistency reliability of all items within each tool. The results revealed a moderate level of internal consistency for the Mothers' Knowledge Assessment tool with a coefficient of (0.72). The Self-Reliance Assessment exhibited a satisfactory internal consistency with a coefficient of (0.79). Similarly, the Coping Patterns Scale demonstrated a high level of internal consistency, recording a coefficient of (0.83).

Ethical Considerations:

Official approval was obtained from the directors of the Psychiatric Mental Health Hospital located in Benha City and the Children's Hospital affiliated with Ain Shams University. Ethics approval was granted by the Scientific Research Ethical Committee of the Faculty of Nursing, Ain Shams University. Before any data was collected, the mothers who were the subjects of the study gave their informed consent and the mothers who went with their kids were told about the goal and anticipated results of the research. The mothers were also given the assurances that the study would not harm their kids, that participation was completely voluntary, and that they could leave the study at any time, for any reason. Mothers were also given the assurance that the data gathered would be kept private and anonymous.

Pilot study

A pilot study was conducted, involving 10% of the total subjects, specifically six mothers accompanying their children with mental retardation. These participants were excluded from the main study to prevent sample bias and contamination due to certain modifications, such as rephrasing statements, introduced during the pilot phase. The final versions of the research tools were derived from this process, and the time required to complete each tool was established.

Field work:

Data collection for this study was carried out a period of 3 months from of May 2023 up to the end of July 2023. The researchers were available two days /week. Data was collected during the morning times from the previously mentioned setting. The researchers started to collect data through assessment, planning, implementation and evaluation phases as the following:

Assessment phase

Assessment phase involved interviews with mothers' accompanied with their children to collect baseline data. The researchers rotated every two days or weeks from 9 AM to 12:30 PM to visit the Psychiatric Mental Health Hospital and the Children's Hospital connected to Ain Shams University in Benha City. Prior to collecting data, the researchers welcomed mothers who were accompanying their mentally retarded children, explained the goal, timeline, and activities of the study, and obtained their verbal consent for them to participate. It took the researchers close to fifteen minutes to gather the data on the children with mental retardation from their mothers and medical records. After asking each mother, the researchers completed an assessment tool.

Planning phase

Utilizing baseline data given during the assessment phase and drawing insights from relevant literature, the researchers designed an instructional module intervention tailored to meet the specific needs of mothers. The intervention was meticulously constructed, revised, and modified, drawing from insights gleaned from the literature to enhance mothers' knowledge and coping strategies concerning their children with mental retardation. The content was carefully prepared in simple Arabic language, aligning with the comprehension levels of both mothers and their children. The teaching took place in a designated setting within the study area, specifically in a teaching classroom. Various teaching methods were employed, including lectures, modified small group discussions, demonstrations, re-demonstrations, and role-playing. To facilitate understanding, an array of suitable media was utilized, including booklets, photos, PowerPoint presentations, educational videos, laptops, and CDs. These tools were chosen to enhance the comprehension of the content by both mothers and their children.

Implementing phase:

The execution stage was carried out through sessions, where each session commenced with a recap of the preceding one and an outline of the goals for the upcoming session. Special attention was given to employing Arabic language suitable for the educational levels of mothers and children. Motivational strategies and positive reinforcement were incorporated during these sessions to bolster engagement and participation in the study.

The studied mothers and their children were divided into groups each group consisted of 10 mothers and their children. The educational guidance was designed included 9 sessions (four theoretical &five practical), which covered knowledge and reported practice needed for mothers as follows: **Session one**: Included: all knowledge about intelligence, intelligence curve, degrees of intelligence and mental retardation. **Session two**: Definition of mental retardation, causes of mental retardation and types of mental retardation, **Sessions two**: Signs of mental retardation and diagnosis & prevention of mental

retardation, **Session three:** Treatment of mental retardation, caring for mentally retarded children. **Session four:** How to deal with children with mental retardation & our duty towards children with mental retardation. **Session five:** Child feeding, head circumference measurement. **Session six:** Tooth brush. **Session seven:** Accident prevention in home. **Session eight:** Teaching parent different patterns of care for mentally retarded children: **Session nine:** Teach parent different socialization styles used toward their children with mental retardation

Evaluation phase:

After the implementation of the instructional module contents, the post test was carried out to assess mothers' knowledge and coping strategies by using the same formats of pre-test. This help to evaluate the effect of implemented instructional module, this was done immediately after application of empowerment sessions

Administrative Design:

An official approval was taken from the Dean of the Faculty of Nursing Ain-shams and Banha University to the hospital director of Children's Hospital affiliated to Ain- Shams University and Psychiatric Mental Health Hospital in Benha City. A clear explanation was given about the nature, importance and expected outcomes of the study to carry out the study with minimal resistance.

Statistical Design:

The obtained data were systematically organized, tabulated, and subjected to statistical analysis using the Statistical Package for Social Science (SPSS) version 21 for Windows, operating on an IBM-compatible computer. Descriptive statistics, such as frequency, percentages, mean, and standard deviation, were employed. Significance tests, including the Chi-square test ($\chi 2$) for assessing the significance of qualitative variables and the correlation coefficient (r) for evaluating quantitative variables that exhibited normal distribution or when one of the variables was qualitative, were utilized to test the study hypotheses. The reliability of the study tools was assessed using Cronbach's Alpha. A highly significant level was considered when $p < 0.001$, significance was noted when $p < 0.05$, and no statistically significant difference was observed when $p > 0.5$.

Results

Table (1): Characteristics of the studied mothers having children with mental retardation according to their characteristics (n=60).

Characteristics of mothers	No.	%
Age/ years		
20 - <30	19	31.6
30 <40	30	**50.0**
≥40	11	18.4
Mean± SD 33.18 ± 9.33 years		
Level of education		
Do not read or write	2	3.4
Read and write	10	16.6
Basic education	42	**70.0**
High education	6	10.0
Consanguinity relationship between mother and father		
Yes	35	**58.3**
No	25	41.7
Anyone in the family suffering from mental retardation		
Yes	40	**66.3**
No	20	33.4

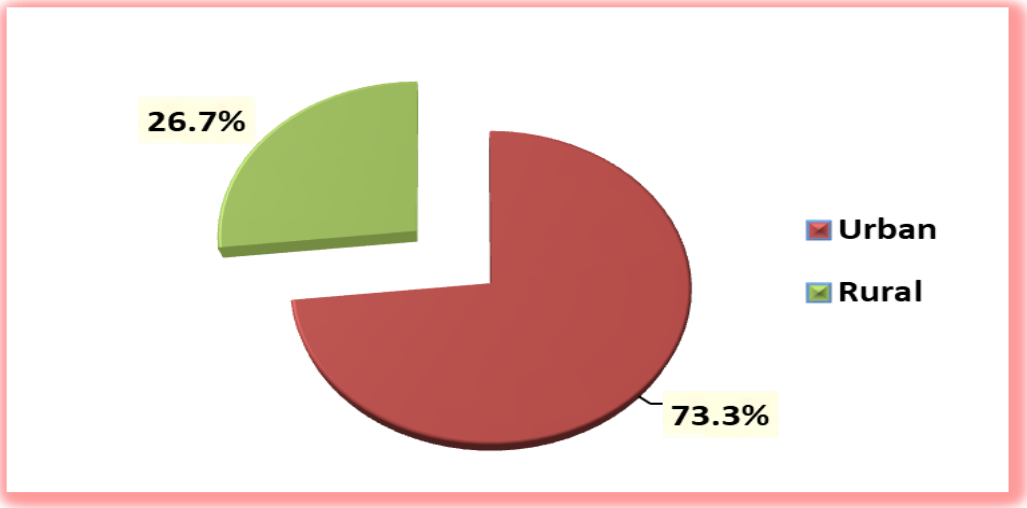

Figure (1): Distribution of the studied mothers regarding their residence (n=60)

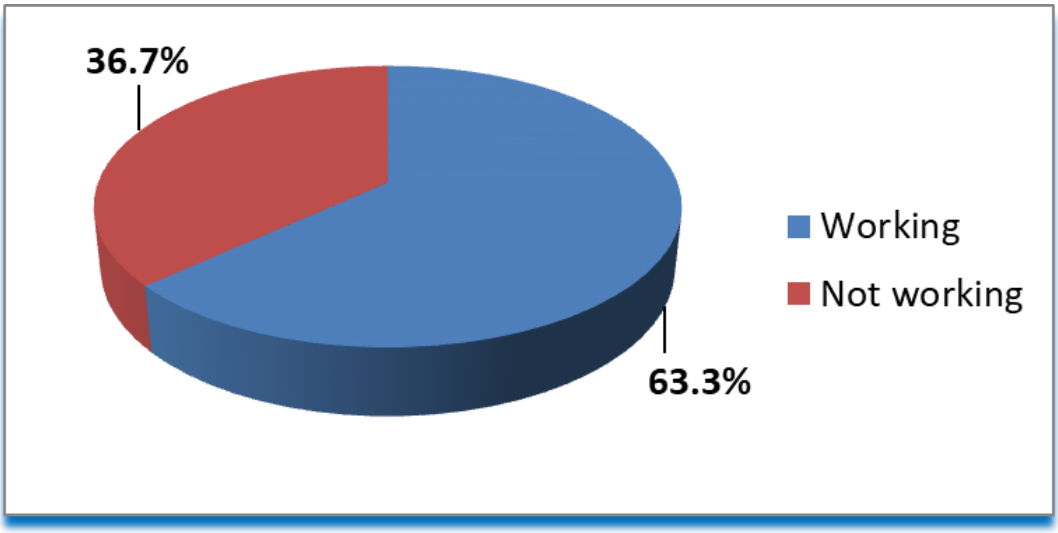

Figure (2): Distribution of the studied mothers regarding their work (n=60).

Table (2): Distribution of the studied children with mental retardation according to their characteristics (n=60).

Characteristics of children	No.	%
Age (years)		
9 <12	33	**55.0**
12 <15	19	31.6
15-18	8	13.4
Mean± SD 13.55 ± 4.62 years		
Level of education		
Neither read nor write	20	**33.3**
Reads and writes	15	25.0
Basic education	20	**33.3**
Secondary stage	5	8.4
Go to school regularly (25)		
Yes	20	**80.0**
No	5	20.0
The level of his educational attainment at school (25)		
Succeed every year with distinction	15	**60.0**
Succeed	5	20.0
Succeed every year with an appendix	5	20.0

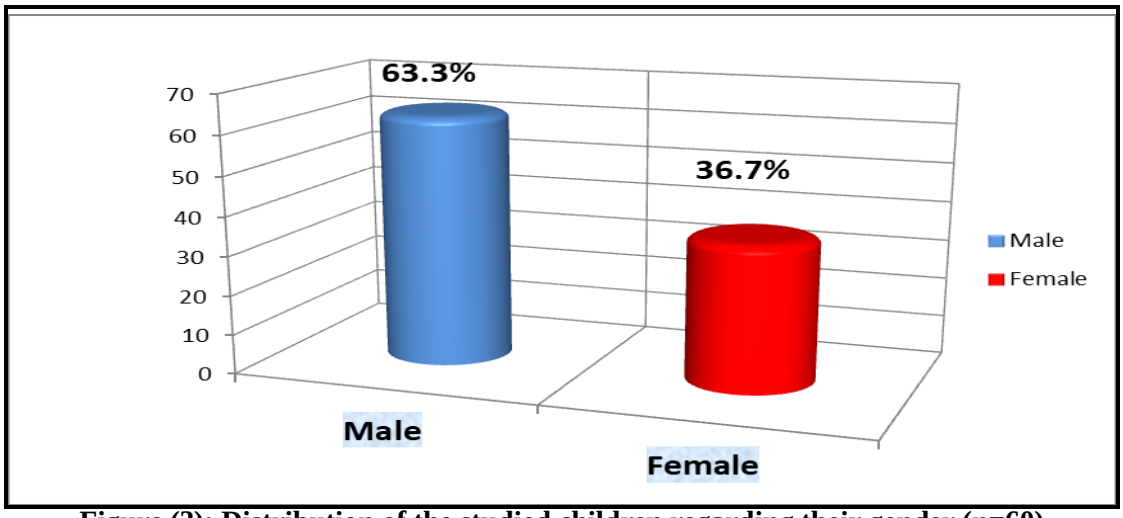

Figure (3): Distribution of the studied children regarding their gender (n=60)

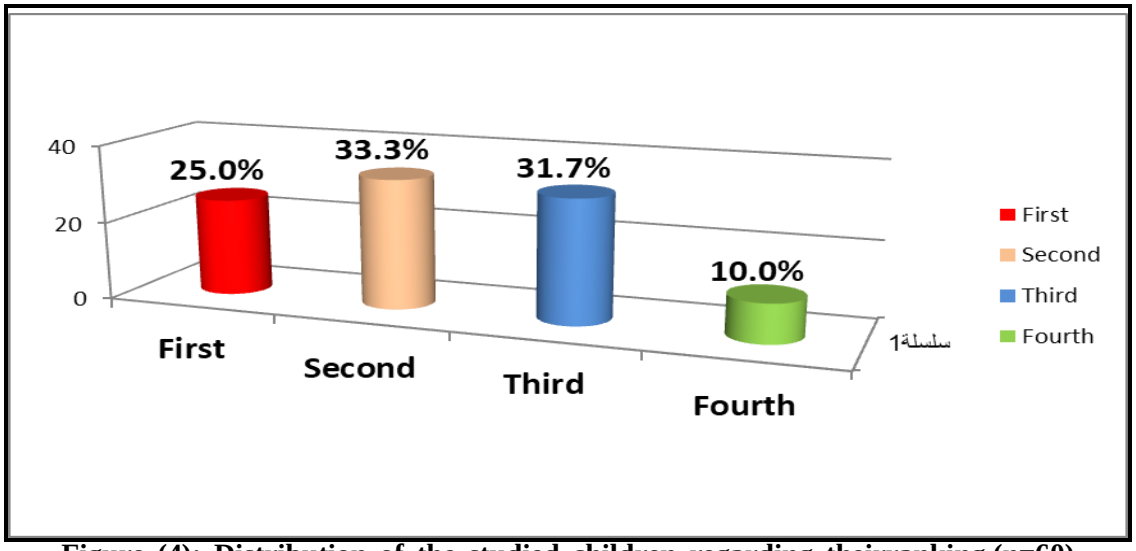

Figure (4): Distribution of the studied children regarding theirranking (n=60)

Table (3): Distribution of the studied mothers according to their medicalhistory (n=60)

Medical history	No.	%
Maternal age during pregnancy / years		
20 <25	3	5.0
25 <30	14	23.3
30 <35	30	**50.0**
35 <40	11	18.3
≥40	2	3.4
Mean ± SD 33.8±9.22		
Mother complain of any health problems during pregnancy		
Yes	45	**75.0**
No	15	25.0
If the answer is yes,(45)		
Bacterial or viral infection	25	**55.5**
German measles	12	26.7
Eclampsia	8	17.8
Exposed to radiation during pregnancy		
Yes	35	**58.3**
No	25	41.7
Mother takes any medications without consulting the doctor		
Yes	47	**78.3**
No	13	21.7

Table (4): Distribution of the studied children according to medical history of the affected child (n=60)

Medical history of the affected child	No.	%
Neonate crying late after birth		
Yes	40	**66.7**
No	20	33.3
The child suffers from health problems during the first 4 weeks of the child's life		
Yes	38	**63.3**
No	22	36.7
Diagnosis the disability by:		
The hospital	21	35.0
The doctor in the clinic	35	**58.3**
Health centers	4	6.7
Child exposed to the following problems during childhood		
Extremely high temperature	6	10.0
German measles	9	15.0
Lack of oxygen	41	**68.3**
Drink amniotic fluid	4	6.7
Follow of speech sessions		
Yes	55	**91.7**
No	5	8.3
Keep the dates of these sessions(55)		
Yes	35	**63.7**
No	20	36.3

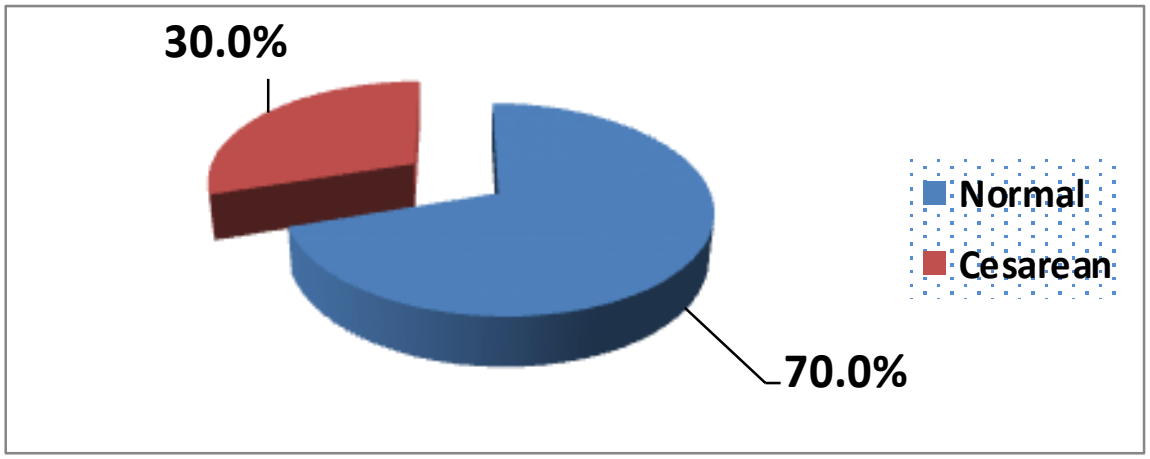

Figure (5): Distribution of the studied children regarding their type of delivery (n=60).

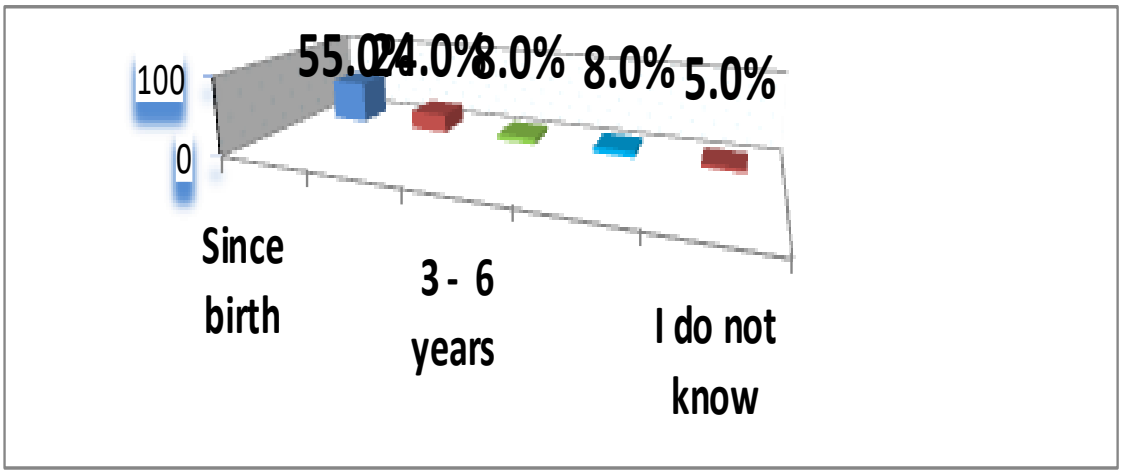

Figure (6): Distribution of the studied children regarding their appear symptoms of disease (n=60).

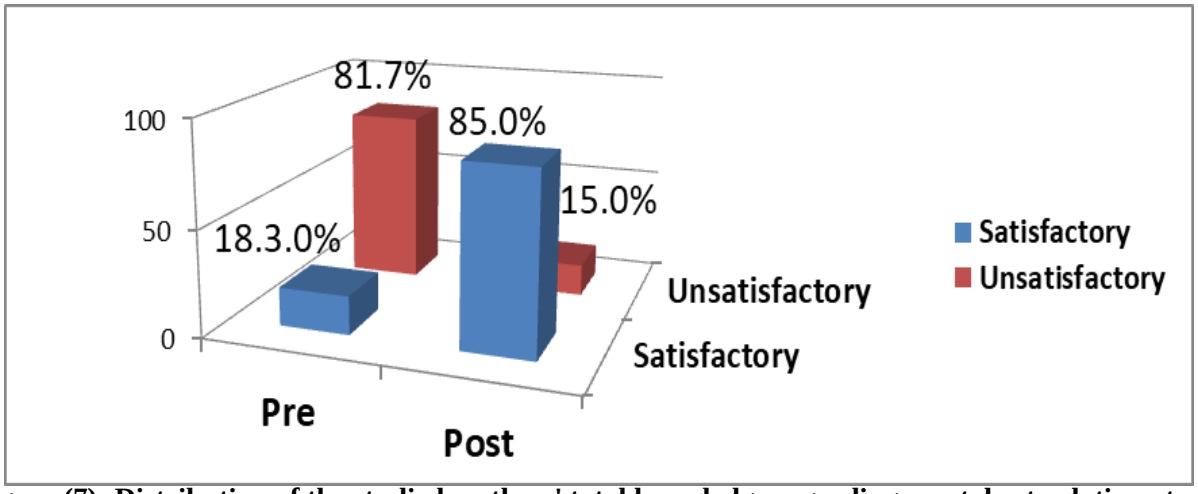

Figure (7): Distribution of the studied mothers' total knowledge regarding mental retardation at pre and post instructional module phase (n=60).

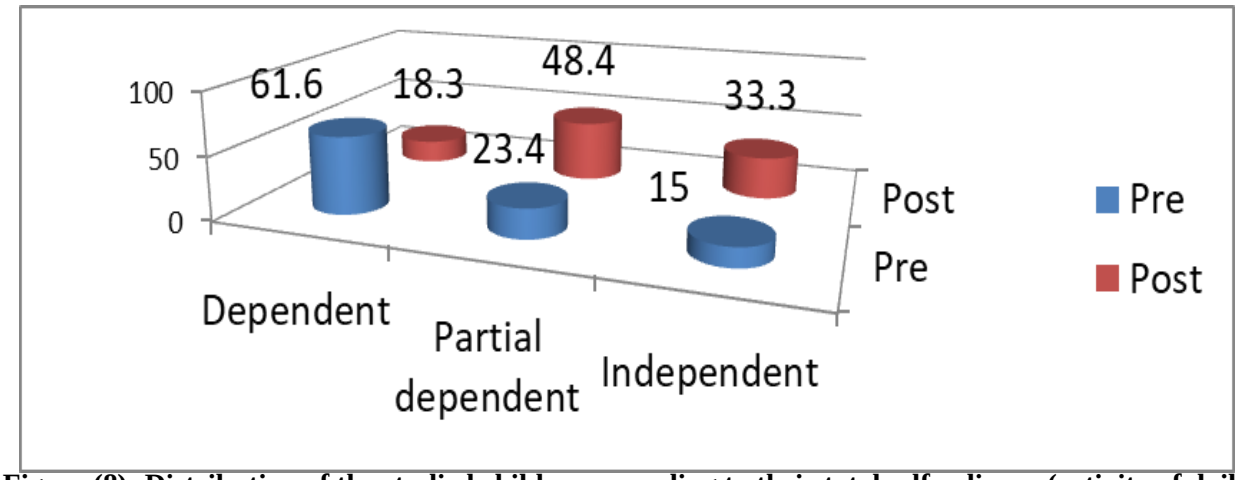

Figure (8): Distribution of the studied children according to their total self-reliance (activity of daily living) at pre and post instructional module phases (n=60).

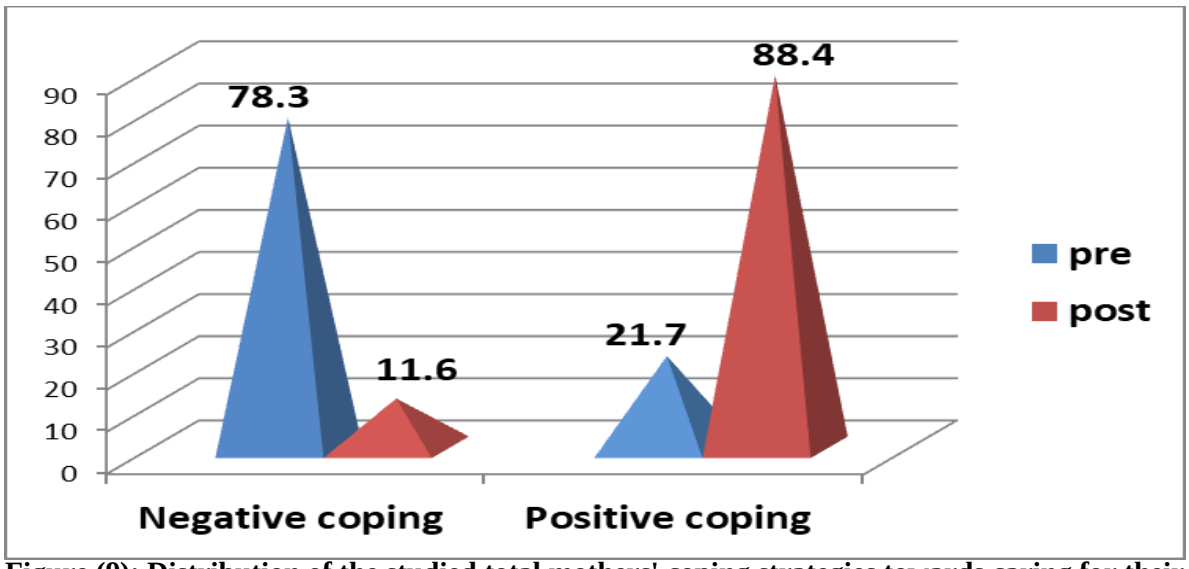

Figure (9): Distribution of the studied total mothers' coping strategies towards caring for their children with mental retardation at pre and post instructional module phases (n=60).

Table (5): Correlation between total mothers' knowledge,,self reliance assessment and coping strategies regarding caring for their children with mental retardation at pre and post instructional module phases (n=60).

Total scores	Pre-implementation instructional module		Post implementation instructional module	
	r	p-value	r	p -value
Mothers 'Knowledge - self reliance assessment	0.536	.000**	0.725	.000**
Mothers 'Knowledge- coping strategies	0.557	.000**	0.864	.000**
Self-reliance assessment - coping strategies	0.619	.000**	0.913	.000**

**statistically significant differences*

Table (1): Shows that, half (50%) of the studied mothers aged between 30-<40 years with mean age was 33.18 ± 9.33 years, more than two- thirds (70.0%) of mothers had basic education. In addition, more than half (58.3%) of them had consanguinity relationship between mother and father and 66.3% had one in the family suffering from mental retardation.

Figure (1): Illustrates that, nearly three quarters (73.3%) of the studied mothers were from urban areas, while, more than one quarter (26.7 %) of them were from rural areas.

Figure (2): Clarifies that, near two thirds (63.3%) of the studied mothers were working. While more than one third (36.7%) of them were not working.

Table (2): Shows that, more than half (55.0%) of the studied children were in age between 9-<12 years with mean age 13.55 ± 4.62 years and one third (33.3%) of them were neither read nor write and basic of education. In addition, the majority (80.0%) of them go to school regularly and nearly two thirds (60%) of them had succeed level succeed every year with distinction at the school.

Figure (3): Shows that, nearly two-thirds (63.3%) of the studied children were males, while, more than one-third (36.7%) of them were females.

Figure (4): Shows that, one third (33.3%) of the studied children were the second child and nearly one third (31.7%) of them were the third child, while, the one quarter (25.0%) of them were the first child and the minority (10.0%) of them were the fourth child, respectively.

Table (3): Illustrates that, half (50%) of the studied mothers agedduring pregnancy between 30-<35 years with mean age was 33.8±9.22years, also three quarters (75.0%) of them complain of health problems during pregnancy. while, more than half (55.5&58.3%) of them having bacterial or viral infection and exposed to radiation during pregnancy, and more than three quarters (78.3%) of them takes medications without consulting the doctor.

Table (4): Illustrates that, more than two thirds (66.7%) of the studied children having crying late after birth, two thirds and more than half (66.3 & 58.3%) of them had suffering from health problems during the first 4 weeks of life and diagnosed mental retardation by the doctor in the clinic. While more than two thirds (68.3%) of them exposed to lack of oxygen during childhood, in addition the most (91.7%) of them follow of speech sessions and nearly two thirds (63.7%) of them Keep the dates of these sessions.

Figure (5): Shows that, nearly three quarters (70.0%) of the studied children were delivery by normal, while nearly one thirds (30.0%) of the studied children were delivery by cesarean.

Figure (6): Shows that, more than half (55.0%) of the studied children were appear symptoms since birth, also nearly one quarter (24.0%) of them were appear symptoms from one month to two years, while the minority (5.0%) of them were don't know.

Figure (7): Shows that, the majority (81.7%) of the studied mothers had unsatisfactory level of knowledge at pre-instructional module, which improved post instructional module to the majority (85.0%) of them had satisfactory level of knowledge regarding mental retardation.

Figure (8): Shows that, nearly two thirds (61.6%) of the studied children had dependent activities of daily living at pre-instructional module, which improved post instructional module to 48.4&33.3% of them had partial dependent and independent activities of daily living respectively.

Figure (9): Shows that, more than three quarters (78.3%) of studied parent had negative coping pattern at pre-instructional module, which improved post instructional module to the majority (88.4%) of them had positive coping pattern regarding caring for their children with mental retardation.

Table (5): This table clarifies that, there were highly statistical positive correlation between total level of the mothers' knowledge, self-reliance assessment and coping strategies regarding caring for their children with mental retardation at pre and post instructional module phases (P= < 0.001

Discussion:

Mental Retardation manifests before age 18. A cognitively challenged child needs emotional resilience and adaptability. In addition to the typical needs of every child, the child has special needs, and parents may feel overburdened by their several

medical and educational obligations. These parents deal with emotional problems, physical fatigue and stress, problems in school, and financial worries **(Satir, 2018).** The family member should also provide social and emotional support to help the child handle and adapt to stress **(Beighton & Wills, 2017).)**
Regarding of the studied mothers' total knowledge regarding mental retardation at pre and post instructional module phase, this study finding revealed that, the majority of studied mothers had unsatisfactory level of knowledge at pre-instructional module, which improved post instructional module to the majority of them had satisfactory level of knowledge regarding mental retardation, This result was agreed with **Widyastono et al. (2021).** This titled "Parenting Module for Parents of Children with Mental Retardation to Improve Understanding in Parenting". Who reported that, upon reading the parenting module designed for parents of children with mental retardation, parents acquire valuable knowledge. This newfound knowledge equips parents with a deeper understanding of how to care for children with mental retardation. In this context, understanding refers to the capacity to comprehend the material and concepts related to the care and support required for children facing mental retardation.
In the same line this result agreed with **Bhatia & Bhardwaj (2018),** their study entitled " Effectiveness of Planned Teaching Programme on knowledge Regarding Care of Mentally Retarded Children Among Care Givers" who reported that the mean post- test knowledge scores of the care givers of mentally retarded children were significantly higher than the mean pre-test knowledge score. This indicated that planned teaching program was effective in enhancing the knowledge of care givers regarding the care of mentally retarded children.
Parents, having acquired knowledge from the parenting module, are expected to demonstrate their understanding of both principles and concepts related to caring for children with mental retardation. Operational verbs such as estimating, explaining, categorizing, detailing, changing, exploring, patterning, summarizing, and describing can be used at this level. It is anticipated that parents, armed with this knowledge, will be able to explain, estimate, and identify patterns in providing optimal care for children with mental retardation based on their unique conditions.
The study finding revealed that, there were highly statistical positive correlation between total level of the mothers' knowledge, and coping strategies regarding caring for their children with mental retardation at pre and post instructional module phases (P= < 0.001). This result was agreed with, **Ahmed et al., (2022)**,who studied" Effectiveness of Coping Strategies Intervention on Quality of Life for Mothers having Children with Down Syndrome" who reported that, a highly significant positive correlation was observed in the statistical analysis between mothers' knowledge, quality of life, and coping both before and after the intervention. The researchers posit that this correlation may be attributed to the positive effects of the instructional module intervention. This intervention is believed to have increased mothers' confidence in addressing their needs, offering viable solutions to their children's challenges. Furthermore, it is thought to have bolstered their coping mechanisms, leading to a reduction in their needs over time.
Concerning children according to their activity of daily living at pre and post instructional module phases, this study finding revealed that more than one third of them were need partial help in dressing at pre and more than half post instructional module phases, this result agreed with **Farag et al., (2021)** which studied "Burden of family caregivers for the children with mental retardation at port- said city" who found that**,** 65.6% of them were need partial help on wearing clothes and shoes.
A substantial portion of research on children raised by parents with intellectual disabilities (ID) has been indirect, relying on associations between parental ID and children's developmental outcomes. **Collings & Llewellyn (2012)** identified only 26 studies on child development, with 11 primarily focusing on child outcomes, the majority of which were indirect. Many of these studies indicated that children in these families face an increased risk of developmental delays and disabilities. However, it is essential to note that the child outcomes often investigated were highly genetically heritable phenomena, such as autism and intellectual disability. While these findings offer insights into developmental prospects, it is inappropriate to deduce the effects of caregiving from indirect designs, especially when studying outcomes with strong genetic components. In fact, adjusting for genetically based vulnerabilities has been shown to diminish most deviations from age-norms **(Van Ijzendoorn et al., 2020).**
Regarding mothers' coping strategies towards caring for their children with mental retardation at pre and post instructional module phases, this study finding revealed that, there was a highly statistical significant between all items of mothers' coping strategies towards caring for their children with mental retardation at pre and post implementation instructional module phases (p< 0.001). this result agreed with **Ahmed et al.,(2022)** who reported that, there was a highly statistically significant differences

between all coping strategies among the studied mothers pre/post coping program where, $p<0.001$.

Raising children with mental retardation is not like raising typical, barrier-free children. Children with mental retardation require a lot of time, care, and instruction in self-care. As a result, parents' roles in providing for their mentally retarded children are crucial and indispensable. In order for children with mental retardation to learn appropriate social behavior, their care must be found in love. On the other hand, children with mental retardation will not develop well if parents do not provide adequate supervision or attention. Parenting techniques for mentally retarded children, as well as the self-development of mentally retarded children, should be understood by parents. These understandings should include the definition, classification, traits, and features of mentally retarded children. In addition to helping parents deal with the stress and confusion that comes with raising a child with mental retardation, it is an attempt to help parents overcome the challenges and barriers they face **(Bourke-Taylor et al., 2021).**

Conclusion

The majority of mothers demonstrated a commendable level of knowledge and coping in caring for their children with mental retardation. Furthermore, a highly significant positive correlation was observed between the overall level of mothers' knowledge, their self-reliance assessment, and coping strategies during the post-instruction module phase.

Recommendations:

Based on the findings of the present study, the following recommendations are proposed:

1. Increasing public and societal awareness regarding mental retardation through mass media campaigns and health education programs.
2. Designing specific sessions for family caregivers would be beneficial to enhance their understanding of mental retardation, alleviate stress, and reduce feelings of depression.
3. Increasing knowledge about welfare and rehabilitation measures through regular public outreach efforts is essential. This can empower caregivers to provide better care and increased support to their children.
4. Implementing ongoing educational programs for mothers with children having mental retardation is crucial. These programs can focus on increasing awareness, knowledge, and practical skills, as well as improving coping strategy patterns.
5. Conducting further research on a larger and more diverse sample in different settings is highly recommended. This would contribute to the generalizability of the results and provide a more comprehensive understanding of the subject.

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