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# Preventing Child Sexual Abuse in Iran: Mothers Teaching Body Safety to Their Sons

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## Abstract

**Background:** Parents play important roles in protecting their children from child sexual abuse (CSA). In Iran, mothers have been shown to effectively improve and maintain female children's protective behaviors and knowledge regarding CSA. This study aimed to determine the effect of personal safety education for mothers in Gorgan (northeastern Iran) on their sons' knowledge and skills for the prevention of CSA.

**Methods:** This clinical trial was conducted in 2019 on 46 preschool-aged boys and their mothers. Eligible subjects were recruited by systematic random sampling from two health centers in Gorgan. Boys were pretested using Persian versions of the Personal Safety Questionnaire and 'What If' Situations Test and then randomly assigned to either an education group (mother-taught program) or a control group. Mothers assigned to the education group participated in a 2-hour training session and were given the Body Safety Training workbook to teach their sons during the following week. Two days after the training by their mothers, boys in both groups were post tested and also followed up one month later. Data were analyzed in SPSS software (version 16) by using repeated-measures ANOVA, general estimation equation, Mann-Whitney U test, and Fisher's exact test.

**Results:** Children taught by their mothers demonstrated significant increases in the mean scores of knowledge (P=0.001), total safety skills (P<0.001), and appropriate-touch recognition (P=0.005). These increases were maintained at the one-month follow-up. Children in both groups recognized almost all inappropriate-touch requests correctly at all three time periods (P=0.99).

**Conclusion**: Educated mothers effectively taught their young sons skills and knowledge to protect from CSA, and these gains were maintained for one month. Although all participants were able to recognize inappropriate-touch requests, boys did not recognize that requests to touch the genitals are appropriate for health or hygiene purposes until they were educated by their mothers. In Iran, parents teach children that any touching or looking at their private parts by anyone is forbidden.

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**What is current knowledge?**

Parents play important roles in protecting their children from child sexual abuse (CSA). In Iran, mothers have been shown to effectively improve and maintain female children's protective behaviors and knowledge regarding CSA. Most CSA prevention efforts target female children, there is little information about sexuality education of boys in Iran.

**What is new here?**

The research findings indicate that educated mothers effectively taught their young sons skills and knowledge to protect themselves from CSA

## Introduction

Child sexual abuse (CSA) is a pervasive global health problem that endangers the safety and health of children. It has been reported in all racial and socioeconomic groups and happens to both boys and girls. According to the World Health Organization (WHO; 2017), about 20% of females and 8% of males have experienced sexual abuse before the age of 18 (1). Research finds that CSA is associated with elevated risks of long-term psychosocial, psychiatric, and physical health outcomes. Consequences of sexual abuse include mood disorders, depression, substance and alcohol abuse, low self-esteem, anger, high-risk sexual behaviors, and poor academic performance (2-5). Physical health consequences include digestive problems, obesity, cardiovascular problems, and chronic diseases (4,6).

Although reports indicate that more girls are victims of CSA than boys (7,8), that finding may be due to boys' reluctance to report abuse and/or that CSA is less often detected in boys (9,10). For males, experiencing CSA is related to increased odds of mood, anxiety, substance use, and personality disorders, as well as a higher risk of suicide attempts (11, 12). Sexually victimized boys are also more likely to engage in risky sexual behaviors. For example, in a meta-analysis of the effects of sexual abuse on males, Homma et al. found that sexually abused boys were significantly more likely than non-abused boys to have unprotected sexual intercourse, multiple sexual partners, and to have caused pregnancy. These researchers conclude that for boys, CSA can substantially influence sexual behavior in adolescence and beyond. In support of the long-term effects on risky sexual behaviors (13), Schafer found that CSA was significantly associated with high-risk drinking, the number of sexual partners, and impulsivity among male college students (14).

These long-term consequences for male victims of CSA call for effective strategies to prevent the abuse of both boys and girls, especially in developing countries where prevention efforts have lagged behind developed countries (15). Providing sexual health and body safety education to children is challenging, especially for those living in Muslim communities experiencing the transition to modernity like Iran (16). In Iran, there is no school-based program covering sexual health education (SHE), and Iranian parents are often opposed to offering SHE in schools (17, 18). Results from one study suggest that there is a "culture of silence" in Iran regarding children's sexuality education; a view often justified by a religious frame (19). Iranian parents (predominantly mothers) in that study viewed children as asexual or 'sexually innocent' and believed that silence and ignorance would be the best ways to handle their children's sexuality since school-based SHE and "overeducating children are reasons for promiscuity in Western societies" (19).

Instead of school-based CSA prevention education, an alternative prevention strategy to protect young children—both boys and girls—from CSA involves partnering with the adults present in a child's environment—most importantly, their parents. Forming a 'prevention partnership' with parents has several advantages for the prevention of CSA (20-24). The importance of mothers as sexuality educators is particularly important in Iran, as mothers are primarily responsible for reproduction, mothering, and child care (25). These responsibilities place mothers squarely in the place of managing (or avoiding) children's sexuality (19, 26). However, in Iran, the majority of parents have not received much education about sexuality-related issues (including CSA) (27, 28).

In a study examining parents' knowledge, attitudes, and practices regarding CSA prevention in Iran, one-third of parents had limited knowledge about CSA but most of them had a positive attitude toward teaching CSA prevention to their children (29). In other studies, researchers found that the education of parents could increase the knowledge, attitudes, self-efficacy, and practice of the parents, although the effects of parent education on their children were not assessed (30, 18). More recently, Khoori et al. found that after providing mothers with educational materials about CSA prevention, Iranian mothers effectively taught personal safety knowledge and skills to their young daughters (31).

Most CSA prevention efforts target female children, and there is little information about sexuality education of boys in Iran. In one study, most parents felt poorly equipped to have conversations with their sons about sexuality (perhaps due to cultural roots), but they were willing to receive

culturally-sensitive information on effective ways to communicate with their sons about sexuality (16). Studies have also shown that parents lack knowledge about the normative sexual development of their sons. For example, in a study of Iranian mothers' views on their children's sexuality, some mothers viewed a baby boy's erection as a serious problem and considered their erections to be a form of misbehavior (19). Furthermore, Iranian parents have expressed concerns about their sons' sexual behaviors and are also worried that their sons will be sexually abused (32). Parents have asked for support, knowledge, and skills to address sexual health and CSA prevention education with their sons. Therefore, to extend the prior limited work in Iran showing that mothers could effectively teach their young daughters body safety knowledge and skills to prevent CSA (31), the present study aimed to determine whether preschool boys in Gorgan could also learn personal safety knowledge and skills when taught by their mothers.

## Methods

This clinical trial was carried out in 2019 on 46 preschool-aged boys and their mothers in Gorgan, northeastern Iran. Upon approval from the Ethics Committee of Golestan University of Medical Sciences, a list of households with a preschool boy was identified (N = 384) from two health centers in Gorgan, which served the largest and most diverse population in terms of cultural, economic, and social levels.

The inclusion criteria for mothers were willingness to participate in the study, Iranian nationality, residence in Gorgan, having at least a secondary education, and no psychiatric disorders or chronic physical illnesses. Inclusion criteria for boy children were the age of 5-6 full years, living with both biological parents, having no psychiatric disorders and chronic physical illnesses (mother's declaration), having no experience of CSA in the past (mother's declaration), and ability to comprehend the questions and to provide verbal responses.

The sample size was calculated as 46 using the sample size equation of intervention studies at 99% confidence interval, 99% test power, and considering sample loss of 20%. To achieve the required sample size of 46, we chose eligible mothers through a systematic random sampling from the list using sampling distance (k), [k = N/n = 384/46 = 8]. From 1 to 8, the number 2 was chosen randomly as the first sample. The second sample was selected by adding the number 8 to the first mother and this process continued until the end. Eligible participants were contacted by telephone. After a description of the research aim, mothers were invited to participate in the study. If the mother did not want to participate, then the next mother was called. This process continued until we reached 46 participants. Of approximately 173 households contacted, about 60% of mothers declined to participate due to the taboo nature of the subject, spouse opposition (for the child's participation we needed the written consent of the child's father), and scheduling problems.

Forty-six mother-son couples who met the inclusion criteria were invited to training sessions. Data collection instruments included a demographic information form to assess child and family characteristics (Table 1), the Personal Safety Questionnaire-Persian version (PSQ-P), and the "What If" Situation Test-Persian version (WIST-P) (33).

After receiving informed and written consent from fathers, mothers completed the demographic information form. The PSQ-P and WIST-P were administered during interviews with the children at the pretest (time 1). At the beginning of each interview, the concept of "private parts" of the body was taught to the children by the researcher. After completing pretest interviews, children were randomly assigned to one of two groups (education by mother or control). The mothers of the education group were invited to attend mothers' educational classes the following week. Mothers of the control group were thanked for their attendance and cooperation and were asked to revisit 16 days later for the posttest of the children (time 2).

The CSA prevention workshop was taught by the researcher (A.H.) to the mothers of the education group (in groups of 5-12 people for 90-120 minutes). Content focused on the importance of CSA prevention and the training needed to protect children's personal safety as well as how to educate their children at home using the Persian version of the Body Safety Training (BST; Wurtele, 2007) workbook for parents (34). Lessons 5-10 of the BST were used by mothers to teach children the following concepts: (1) children are "bosses" of their bodies and need to keep their bodies safe; (2) identifying places and names of their "private parts"; (3) self-touch is acceptable if it is done in private; (4) when it is appropriate for others (i.e., doctors and parents for health or hygiene) to touch or look at their "private parts"; (5) otherwise, it is not acceptable for someone else to touch or look at their "private parts", especially if asked to keep it a secret; (6) understanding that inappropriate touching is never the child's fault; and (7) learning the body safety rule, "It's unacceptable for an older person to touch or look at my private parts" unless doctors, nurses, or parents need to touch or look at the child's private parts for health or hygiene reasons (34).

At the end of the workshop, mothers were given a copy of the Persian-version BST workbook to teach their sons at home over the week. The control group received no training. Mothers were instructed to teach their children at least one lesson a day. During one week of at-home training, the researcher contacted the mothers twice (on days 2 and 5) to track the progress of educating their sons and to answer their questions, if any. Two days after the completion of the one-week education, children in both groups were re-interviewed using the PSQ-P and WIST-P (time 2). One of the mothers of the education group refused to continue participating due to personal problems; hence, her son was deleted from posttest and follow-up testing.

Follow-up testing (time 3) was performed for children in both groups one month after the posttest (Figure 1). After completing the questionnaires, children received small gifts. After follow-up testing, all control group mothers received the BST workbooks.

The Personal Safety Questionnaire (PSQ) and the "What If" Situation Test (WIST) were developed by Wurtele et al. (35) in the U.S. and both of them were translated into Persian, back-translated, and validated by Gholamfarkhani et al. (33). The PSQ-P includes 12 questions; the first ten questions assess children's knowledge of sexual abuse (e.g., "Is it OK for children to touch the private parts of an older person?") and two questions assess attitudes about sexuality (e.g., "Is it OK that children touch their own private parts?". "Is it true that children can touch the private parts of their own body?". Correct answers indicate children's positive attitudes toward their bodies. Children responded with "yes", "no" or "I do not know". PSQ-P scores range from 0 to 12. Higher scores indicate higher levels of knowledge and more positive attitudes toward sexuality (33).

The WIST-P includes six scenarios designed to assess children's ability to identify and respond to hypothetical sexual abuse situations. Three scenarios (1, 2, and 6) describe appropriate requests to look at or touch children's private parts and the other three scenarios (3, 4, and 5) include inappropriate requests. The WIST-P includes three scales of appropriate-touch recognition (range 0-3 points), inappropriate-touch recognition (range 0-3 points), and total skill (range 0-24 points). The total skill consists of 4 subscales: the WIST SAY skill (rejecting the inappropriate touch request with a firm verbal response (score 0-6), the WIST DO skill (doing something to distance oneself from the abuser (score 0-6), the WIST TELL skill (name trusted individuals from one to several people (score 0-6), and the WIST REPORT skill (describe the perpetrator and the event (score 0-6) (33). Higher scores indicate more skills.

Data were analyzed using SPSS (version 16). Means and standard deviations were used to describe the quantitative variables, and frequency and percentage were used for qualitative variables. The Kolmogorov-Smirnov test was conducted to assess the normality of the distribution of scores. Repeated-measure analysis of variance (ANOVA) and the non-parametric equivalent GEE and Bonferroni in-group and Tukey in-group post hoc tests were conducted. The PSQ-P and total WIST-P scores were normally distributed. Due to the non-normal distribution of scores for the WIST-P appropriate and inappropriate touch scores based on results of the Kolmogorov-Smirnov test, the non-parametric Mann-Whitney U Test was conducted. To compare sociodemographic qualitative variables between two or more groups, chi-square was used if defaults were established; otherwise, Fisher's exact test was used. A P-value of <0.01 was considered significant. Eta squared statistic was computed to determine effect size, using guidelines (proposed by Cohen, 1988) as .01 = small effect, .06 = moderate effect, and .14 = large effect).

## Results

There was no significant difference between the education and control groups on quantitative and qualitative demographic variables (Tables 1, 2). In addition, no significant difference was found at Time 1 between the two groups on mean scores of total WIST-P and total PSQ-P (Table 3).

A repeated-measures ANOVA was conducted to assess the impact of education on children's PSQ-P and WIST-P total scores across three times [pretest (time 1), posttest (time 2), and follow-up (time 3)]. For PSQ-P total scores, the main effect of time was significant (Wilks' Lambda = 0.57, F (2.43) = 15.96, P≤0.001), and the group × time interaction was marginally significant (Wilks' Lambda = .87, F (2.43) = 3.02, P=0.06, η2 partial = .13) (medium effect size) (Table 3). There was a significant increase in PSQ-P mean scores for the education group from time 1 to time 2 and from time 1 to time 3 (Figure 2). The mean total scores of PSQ-P were not statistically different between the two groups at any of the three time periods (Table 3).

For WIST-P total scores, in addition to a significant time main effect (Wilks' Lambda =.46, F(2,43) = 24.91, P≤0.001), the group × time interaction was also significant (Wilks' Lambda = .79, F(2,43) = 5.6, P=0.007, η2 partial = .21) (large effect size) (Table 3). There was a significant increase in total mean scores of WIST-P for the education group from time 1 to time 2 and time 1 to time 3 (Figure 3). The mean total scores of WIST-P were not statistically different between the two groups at times 1 or 2 but were different at time 3 (Table 3).

The WIST-P appropriate and inappropriate recognition scores were analyzed using the GEE test. For WIST-P appropriate touch scores, in addition to a significant time main effect (Walds' Chi-square (2) = 26.99, P≤0.001, the group × time interaction was also significant (Walds' Chi-square (2) = 14.79, P=0.001) (Table 3). The mean score of WIST-P appropriate touch significantly increased only in children of the education group from time 1 to time 2 and from time 1 to time 3. The mean scores of WIST-P appropriate touch and total WIST-P were not statistically different between the two groups at times 1 or 2 but were different at time 3 (Table 3). The WIST-P Inappropriate recognition

scores for the two groups were not significantly different at any of the three testing periods (Table 3).

## Discussion

Results show that mothers in Gorgan (northeastern Iran) can effectively teach their preschool-aged boys personal safety skills using the Persian version of the BST program. Moreover, CSA prevention skills (using WIST-P) increased significantly among preschool boys after their mothers taught them a personal safety education program. These findings replicate and extend the previous study where it was shown that preschool girls were able to learn personal safety skills when taught by their mothers (31).

At the pretest, preschool boys in the present study had low scores, highlighting the lack of personal safety knowledge and skills. The one exception to low scores was the high score on the inappropriate request recognition scale at time 1 (discussed below). Boys in the intervention group also significantly increased their knowledge about sexual abuse (measured by PSQ-P) at the posttest, whereas children in the control group showed no significant increase between the two time periods (time 1 vs. time 2). However, the group × time interaction for PSQ-P scores was marginally significant (P=0.06). The absence of significant differences between the two groups on PSQ-P (knowledge scores) may be due to the simultaneous increase (although less) in the knowledge scores of children in the control group. Likewise, Citak Tunc et al. examined the effect of personal safety education using a short version of PSQ (4 questions) on CSA prevention knowledge in young Turkish children and found a simultaneous increase in the knowledge score of children in the control group (36). It is possible that after being interviewed at time 1, children may have discussed the assessment with others and those conversations may have led to increased knowledge and skills.

In the present study, children who participated in the mother-taught BST program had greater body safety skills at times 2 and 3 (as indicated by total WIST-P scores). Also, compared with controls, total WIST-P and appropriate-touch recognition scores were significantly greater one month after the education (at time 3), demonstrating the stability of the body safety skills. Mothers might have had more opportunities to practice with their children, resulting in an increase in their children's skills during this period. Consistent with the findings of the present study, Citak Tunc et al. also reported a significant effect of the body safety education program on total WIST skills in young Turkish children (3-6 years old) one month after education (36). Likewise, Kim and Kang also found that South Korean primary school children showed gains in self-care skills during the follow-up phase (two weeks after education) after they received the "CSA prevention education" program (including group discussion, role-playing, lecturing, and painting) (37).

A noteworthy finding in the present study was that children in both groups recognized almost all inappropriate-touch requests correctly at the pretest (time 1). Pretest scores on this variable averaged 2.98/3 (99.3%). In contrast, studies in the U.S. have shown that few preschool-aged children can recognize inappropriate-touch requests. For example, in a sample of over 400 young children in the U.S., pretest scores on this variable averaged 1.51/3 (50%) (38). In our previous study, Khoori et al. reported similar results in recognizing inappropriate touches among preschool-aged girls who averaged 2.8/3 (93%) (31). Although participants were able to recognize inappropriate-touch requests, the boys did not understand that other requests to touch the genitals (private parts) are appropriate for health or hygiene purposes. The average score of appropriate-touch recognition of children in the present study at the pretest was 1.78/3 (62%), compared to Iranian preschool girls (40%), Chinese children 2.7/3 (90%) (39), US children 2.47/3 (82%) (38), and Turkish children 2.56/3 (85%) (36). Only children in the education group showed a significant improvement between time 1 and time 2 and maintained high scores up to one month later (2.9/3), which indicated the effectiveness of education on appropriate-touch recognition. These findings were consistent with the findings of Wurtele et al. and Khoori et al. that used similar educational programs and tools to assess appropriate-touch recognition skills in children (31, 38). According to the results of appropriate- and inappropriate-touch recognition measures, what led to a statistically significant difference between the two groups after the education was the improvement in children's ability to recognize appropriate-touch requests.

Interestingly, similar results for inappropriate-touch recognition were obtained among Indonesian fifth-grade children. Almost all (92%) of the children were able to recognize all three inappropriate-touch request scenarios, but only 43% of them were able to recognize all three appropriate-touch request scenarios (40). It seems that due to similar religion (Islam) and cultural values in Iran and Indonesia, the taboo of talking about sexual topics, along with the lack of a formal educational program, most parents in these two countries teach their children that any touching or looking at their private parts by any person is forbidden. Therefore, the children do not learn that sometimes for health or hygiene reasons, a doctor or a nurse, mother or father, and themselves can look at or touch their private parts.

### *Study limitations*

1) Some families refused to enroll their children in the study due to the taboo nature of sexual education in Iran.

2) Given that the scores of CSA prevention knowledge and skills were only obtained through verbal responses and not real observations of children's behavioral responses to abuse, it was difficult to predict whether children would be able to use their knowledge and skills properly in real life.

3) Another limitation of the study was that children in the control group entered the study at the same time as children in the education group. For future studies, it is suggested in order to prevent possible information transfer between children in the two groups over time, after assigning samples randomly to the education and control groups, the education group enters the study after the control group completes the questionnaires.

## Conclusion

The CSA prevention education for preschool boys by mothers improved their body safety knowledge and skills. Therefore, it is possible to enable mothers to educate their sons by teaching mothers the CSA prevention program, thereby taking steps towards preventing CSA.

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### Ethical statement

The study has been approved by the Ethics Committee of Golestan University of Medical Sciences (ethical code: IR.GOUMS.REC.1397.152). Written informed consent was obtained from all subjects or legal guardians of children before participation in the study.

### Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

### Author contributions

All authors made a substantial contribution to writing of the paper draft and met the four criteria for authorship recommended by the International Committee of Medical Journal Editors.

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**Table 1: Comparison of the mean of quantitative demographic variables between the intervention and control groups**

| Variable | Control group | Intervention group | *P-value |
|---|---|---|---|
| | Mean ± standard deviation | Mean ± standard deviation | |
| **Age of child (months)** | 79.17±3.1 | 76.96±8 | .34 |
| **Age of mother (years)** | 34.87±4.07 | 34.57±4.9 | .74 |
| **Age of father (years)** | 40.13±5.22 | 39±4.5 | .46 |

Mann–Whitney U test ⁎

**Table 2: Comparison of the frequency distribution of qualitative demographic variables between parents of children in the intervention and control groups**

| Variables | Level | Control group (n=23 ) | Intervention group (n=23) | *P-value |
|---|---|---|---|---|
| **Education level of mother** | High school diploma | 5(21.7%) | 10(43.5%) | .35 |
| | Bachelor's degree | 14(60.9%) | 11(47.8%) | |
| | Postgraduate and higher | 4(17.4%) | 2(8.7%) | |
| **Education level of father** | High school diploma | 4(17.4%) | 4(17.4%) | .91 |
| | Bachelor's degree | 16(69.6%) | 14(60.9%) | |
| | Postgraduate and higher | 3(13%) | 5(21.7%) | |
| **Mother´s job** | Housewife | 13(56.5%) | 17(73.9%) | .50 |
| | Employed | 6(26.1%) | 4(17.4%) | |
| | Freelancer | 4(17.4%) | 2(8.7%) | |
| **Father´s job** | Worker | 1(4.3%) | 3(13%) | .31 |
| | Employed | 13(56.5%) | 8(34.8%) | |
| | Freelancer | 9(39.1%) | 12(52.2%) | |

*Fishers exact test

**Table 3: Means PSQ-P and WIST-P scores by group at different testing stages**

| Variable | Group | Mean ± SD | | | F | P-value | Partial Eta Squared | 1,2 | 1,3 | 2,3 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Pretest Time 1 | Posttest Time 2 | Follow up Time 3 | | | | | | |
| **PSQ-P(range 0-12)** | Control | 9±1.51 | 9.48±1.9 | 9.87±1.87 | 3.02 | 0.06 | 0.13 | 0.47 | 0.05 | 0.29 |
| | Intervention | 8.57±1.53 | 10.18±1.4 | 10.77±1.45 | | | | 0.001 | <0.001 | 0.047 |
| | P-value | 0.34 | 0.17 | 0.08 | | | | | | |
| **Total WIST-P (range 0-24)** | Control | 11.48±6.35 | 13.35±6.93 | 14.35±7.29 | 5.6 | 0.007 | 0.21 | 0.27 | 0.06 | 0.50 |
| | Intervention | 11.65±5.38 | 16.77±5.35 | 19.77±4.94 | | | | <0.001 | <0.001 | 0.031 |
| | P-value | 0.92 | 0.071 | 0.006 | | | | | | |
| **Appropriate touch recognition (range 0-3)** | Control | 1.91±1.28 | 1.96±1.33 | 2.17±1.27 | 14.79 | 0.001 | | 1 | 0.33 | 0.17 |
| | Intervention | 1.83±1.23 | 2.64±0.79 | 2.91±0.29 | | | | 0.005 | <0.001 | 0.09 |
| | P-value | 0.74 | 0.08 | 0.03 | | | | | | |
| **Inappropriate touch recognition (range 0-3)** | Control | 3±0 | 3±0 | 3±0 | 1.04 | 0.31 | | - | - | - |
| | Intervention | 2.96±0.21 | 3±0 | 3±0 | | | | 0.99 | 0.99 | - |
| | P-value | 0.21 | 0 | 0 | | | | | | |

Results are presented as mean ± standard deviation

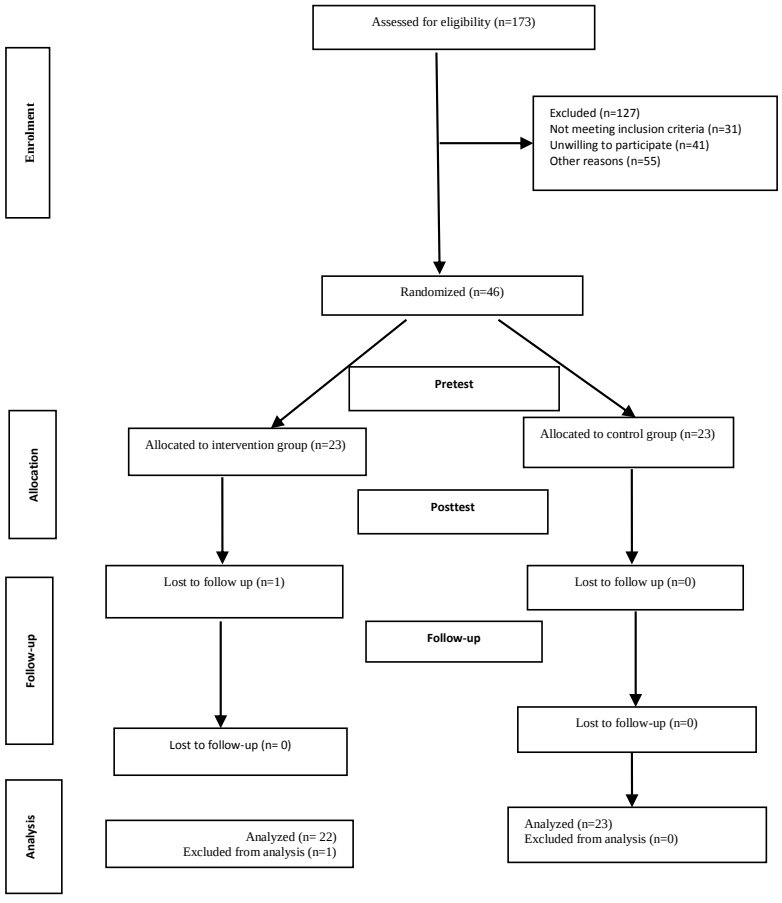


Figure 1. Flow chart of study population selection

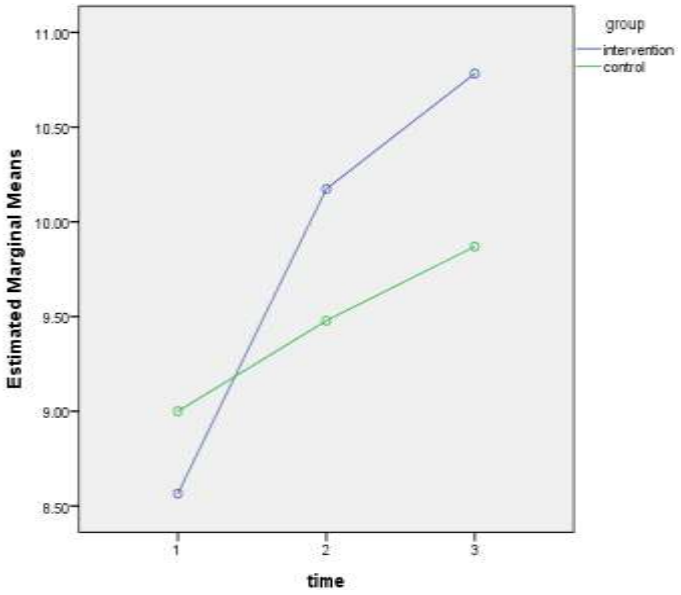


**Figure 2. PSQ-P scores across the three time periods**

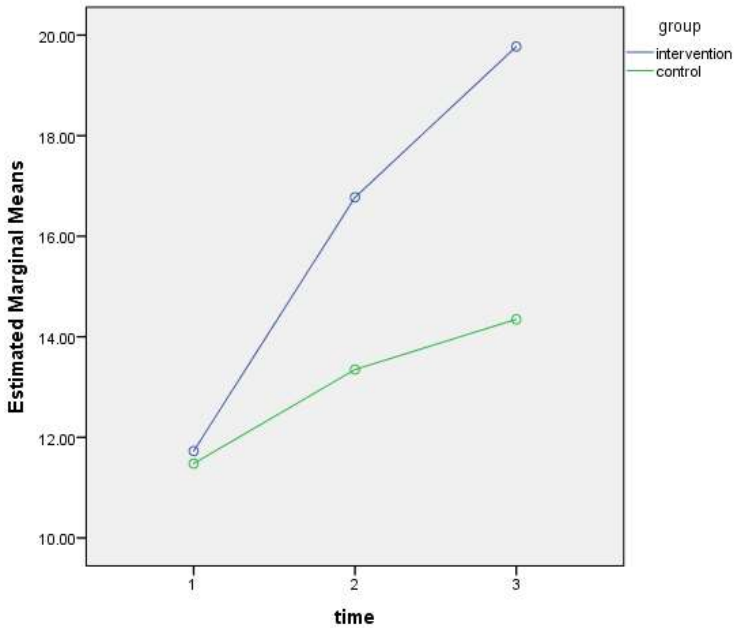


**Figure 3. PSQ-P scores across the three time periods**

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