

# Validation of a cultural adaptation of the Children's Knowledge of Abuse Questionnaire (CKAQ-RIII) in primary school children in Iran

MOHAMMAD TAHAN<sup>1</sup>, GHOLAMALI AFROOZ<sup>1</sup>, JAFAR BOLHARI<sup>2</sup>

<sup>1</sup>Department of Psychology and Exceptional Children Education, University of Tehran, Iran; <sup>2</sup>Socio-Psychiatric Department, Iran University of Medical Sciences, Tehran, Iran.

**Summary. Objective.** The purpose of this study was to investigate the cultural adaptation and validation of the Children's Knowledge of Abuse Questionnaire (CKAQ-RIII). This tool, which is used in Iranian primary schools, examines children's understanding of the concepts of sexual abuse. **Materials and methods.** A sample of 80 primary school children between 8 and 12 years of age was selected from schools in Iran. The questionnaire was administered three times: before and immediately after the Child Abuse Prevention Program and at the three-month follow-up assessment. **Results.** The included children (n=80) completed the Persian version of the CKAQ-RIII during the three-month follow-up. The internal consistency of the CKAQ-RIII was high for the Inappropriate Touch Scale (ITS) and moderate for the Appropriate Touch Scale (ATS). Analysis of the Pearson correlation coefficients indicated a strong relationship between the ITS and ATS and the overall scores. The mixed-design analysis of variance (ANOVA) on the ITS showed that the children's knowledge increased after the intervention. In general, higher scores were observed for children in the fifth and sixth grades (11 to 12 years old) after the intervention, indicating greater concept knowledge. Repeated measures ANOVA was also performed on the ATS, which showed a significant increase in children's knowledge. **Conclusions.** The Persian version of the CKAQ-RIII is an effective and reliable tool for assessing the level of knowledge of the concepts of sexual abuse in Iran.

**Key words.** Child sexual abuse, children's knowledge of abuse, cross-cultural validation, Iran.

*Validazione di un adattamento culturale del questionario sulla conoscenza degli abusi da parte dei bambini (CKAQ-RIII) nelle scuole primarie in Iran.*

**Riassunto. Scopo.** Lo scopo di questo studio è stato quello di indagare l'adattamento culturale e la validazione del Questionario sulla conoscenza degli abusi da parte dei bambini (CKAQ-RIII). Questo strumento, utilizzato nelle scuole primarie iraniane, esamina la comprensione da parte dei bambini del concetto di abuso sessuale. **Materiali e metodi.** È stato selezionato un campione di 80 bambini della scuola primaria di età compresa tra 8 e 12 anni provenienti da scuole iraniane. Il questionario è stato somministrato tre volte: prima e immediatamente dopo il Programma di prevenzione degli abusi sui minori e alla valutazione di follow-up a tre mesi. **Risultati.** I bambini inclusi (n=80) hanno completato la versione persiana del CKAQ-RIII durante i tre mesi di follow-up. La coerenza interna del CKAQ-RIII era elevata per la scala del tocco inappropriato (ITS) e moderata per la scala del tocco appropriato (ATS). L'analisi dei coefficienti di correlazione di Pearson ha indicato una forte relazione tra ITS e ATS e i punteggi complessivi. L'analisi della varianza a disegno misto (ANOVA) sugli ITS ha mostrato che la conoscenza dei bambini è aumentata dopo l'intervento. In generale, dopo l'intervento sono stati osservati punteggi più alti per i bambini di quinta e sesta elementare (da 11 a 12 anni), indicando una maggiore conoscenza dei concetti. È stata eseguita anche l'ANOVA a misure ripetute sull'ATS, che ha mostrato un aumento significativo delle conoscenze dei bambini. **Conclusioni.** La versione persiana del CKAQ-RIII è uno strumento efficace e affidabile per valutare il livello di conoscenza dei concetti di abuso sessuale in Iran.

**Parole chiave.** Abusi sessuali sui minori, conoscenza degli abusi da parte dei bambini, Iran, validazione interculturale.

## Introduction

Children make up a major part of the world's population, so that this figure reaches almost 50% of the total population in developing countries. Ensuring children's health is actually providing society's

health, and childhood is the period of growth and personality formation. Child abuse during these sensitive and important years causes serious damage to children's health development<sup>1,2</sup>.

According to child abuse statistics published in the United States, more than one million children

are abused every year<sup>3</sup>. A total of 68,100 cases of child abuse were reported in 2011<sup>4</sup>. According to the World Health Organization, child abuse is defined as harming or threatening the physical and mental health and well-being of a child by parents or other people who are responsible for him/her. In other words, if any behavior or inadequacy on the part of the parents or legal guardian of the child leads to the death of the child, mental injuries, sexual abuse or exploitation, is considered as child abuse<sup>5</sup>. Child abuse can lead to short-term and long-term consequences and complications from various aspects such as physical, emotional, behavioral, social, and psychological disorders and problems in its victims<sup>6</sup>.

The most catastrophic child abuse form is child sexual abuse. Sexual abuse includes engaging in any type of sexual activity with a child before the age of legal consent. When defining sexual abuse, it should always be kept in mind that force and coercion play a fundamental role in this type of abuse<sup>7</sup>.

According to US Department of Health, 4.3 million cases of child abuse were reported in 2018, involving 4,327,000 children<sup>8</sup>. Reports show that approximately 20% of Iranian children aged 6 to 11 have been abused<sup>9,10</sup>. In this regard, Namdari et al. reported that the prevalence and cases of sexual child abuse among middle school girls in Khorramabad were reported as 32.5%<sup>11</sup>. According to previous studies in the United States, women and men who experienced sexual assault during their childhood are four times more likely to become prostitutes<sup>12</sup>.

In general, statistics on child abuse worldwide, including in Iran, are not fully reported for reasons such as different attitudes and beliefs about child abuse, failure to report abuse by parents for fear of legal action, low age of children, knowing abuse as normal behavior and children's sense of loyalty to their parents<sup>13,14</sup>.

There are few studies on child abuse in Iran. Only epidemiological data are available, and there is no single database or cultural structure to record these events. Furthermore, experts are not required to report incidents of child abuse, and if they decide to do so, there is no legal immunity for them. Insufficient staff in relevant departments and inadequate training and supervision of pediatric specialists make it challenging to detect sexual abuse in children in this area<sup>15</sup>.

Although reports suggest an unprecedented rate of the incidence and prevalence of child sexual abuse in Iran, no standard tools have been designed to assess children's understanding of the concepts of sexual abuse in Iran. The importance of such culturally compatible measurements is to compare data from studies conducted in Iran with international data on children of similar ages and to evaluate the performance and success of programs to prevent sex-

ual abuse that are offered by relevant authorities in schools. Much work remains to be done in Iran with regard to child sexual abuse, especially in the areas of detection and prevention. The first step in this direction is to present and validate an evaluation tool in accordance with Iranian culture<sup>14</sup>.

The Children's Knowledge of Abuse Questionnaire (CKAQ-RIII) is a self-report tool designed to measure children's level of information about important beliefs and facts related to child sexual abuse<sup>16</sup>. It is primarily used for assessment in prevention programs in schools. The questionnaire consists of 33 questions, 24 of which constitute the Inappropriate Touch Scale (ITS). Scores on this questionnaire indicate children's understanding of inappropriate touch or contact that could lead to possible sexual abuse. This tool also considers inappropriate contact by familiar people and includes questions that measure children's previous level of knowledge about sexual abuse, which may help them avoid possible abuse. In addition, the questionnaire contains an Appropriate Touch Scale (ATS) with 9 questions on touches that may be safe and secure for a child, such as a doctor who needs to examine a child's private parts.

The main objective of the present study was to present the cultural adaptation and validation of the Persian version of the CKAQ-RIII questionnaire and its appropriateness for use with primary school children in Iran. We implemented the Persian version of the CKAQ-RIII in a sample of primary school children aged 8-12 years with the aim of assessing the internal consistency, construct validity and criterion validity of the ATS and ITS subscales. This study is the first to identify the psychometric properties of the ATS and examine the gap between experimental articles and measurements of children's knowledge of the concepts of child sexual abuse. This study also investigates the concurrent criterion validity of the ITS by considering the relationship between CKAQ scores.

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## Materials and methods

Eighty children from five different grades were selected from private primary schools in Khorasan (eastern Iran) in 2018-2019. This sample represents a group of middle socioeconomic classes. According to the socioeconomic characteristics of the population living in Ghaenat County, whose citizens were families with moderate socioeconomic status, 65% of them had a bachelor's degree or higher, and had an average income. Data from the age group of 8 to 12 years did not include acute mental and physical illnesses (based on interviews and students' health records), and children with physical, emotional, or cognitive disabilities were excluded from the sample

because the program did not provide the unique tools needed for these specific groups.

Specifically, the second-grade sample consisted of 16 students, the third grade consisted of 25 students, the fourth grade consisted of 15 students, the fifth grade consisted of 12 students and the sixth grade consisted of 12 students. The mean age of the participants was 10 years with a standard deviation of 1.34. In particular, 20% of students were born in 2011, 31.3% in 2010, 18.8% in 2009, 15% in 2008 and 15% in 2007. There was no significant relationship between gender and grade in the current sample, which shows that the distribution of gender between grades was homogeneous.

In this study, the instrument was collected by the Localized Children's Knowledge of Abuse Questionnaire-Revised (CKAQ-RIII)<sup>16</sup>, which is described below.

### CHILDREN'S KNOWLEDGE OF ABUSE QUESTIONNAIRE

The CKAQ-RIII is a 33-item tool that measures children's level of knowledge of sexual abuse concepts and assesses their knowledge of prevention skills<sup>17,18</sup>. Answer options for all questions include "true", "false" and "I don't know". Scoring involves assigning one score to the answer "true" and no score to answers "false" or "I don't know." Higher scores indicate a higher level of knowledge about the concepts of sexual abuse. Currently, psychometric properties are available only for ITS, which has shown strong internal consistency ( $\alpha=.87$ ) and test-retest reliability ( $\alpha=.88$ )<sup>18</sup>.

The translation and cultural adaptation of the CKAQ-RIII was conducted in accordance with the World Health Organization's international standards<sup>19</sup>. Initially, three experts translated the English version into Persian independently. The translators were familiar with the vocabulary, but not with the CKAQ-RIII. Thereafter, the research team discussed and revised the preliminary versions, which were then finalized.

Next, two psychologists who had experience translating the questionnaire back translated it from Persian to English. The translated and back translated questionnaires were compared and the research team resolved the differences. In the questionnaire's Persian version, some questions were modified or omitted based upon Iranian culture (Questions 2, 4, and 30 were removed and 8 new questions were added). The translators and back translator were both Persian speakers and fluent in English.

This questionnaire is designed to measure children's level of understanding of important beliefs and opinions about sexual abuse, so that they can understand questions without any background of prevention.

The revised Persian version of the questionnaire has 38 questions with a 2-point scale of true and false (yes 0, no=1). Thus, the minimum score that can be

obtained in this questionnaire is 0 and the maximum is 21. As children's scores on this questionnaire increase, so does children's knowledge of the concepts of sexual abuse. The questionnaire has been designed for children between the ages of 8 and 12 years, with a total scale and two subscales of ATS (8 questions) and ITS (30 questions)<sup>14</sup>. The psychometric data collected from 80 children were examined in this study; its reliability was measured by K-R20 test and reported to be 0.87<sup>20</sup>.

### PROCEDURE

Prior to the study, the necessary coordination was made for the research. After explaining the objectives and importance of the research to the school principals, the parents of the students who were introduced by the teachers (based on the interview and the health booklet) were invited, and in a briefing while introducing, the necessity of research was explained to them. The parents of the participants first read the consent form and, if they wished to have their children participate in the research, completed the research consent form. In a session, 80 children were randomly selected from all primary school children and CKAQ-RIII (Persian version) was performed in triplicate during the 2018/2019 academic year. The participants responded to the Persian version of the CKAQ, 1) at the baseline with the obtained scores considered as pre-test, 2) then after their participation in the Child Sexual Abuse Prevention Program with psychological interventions<sup>13</sup> as post-test, and finally 3) three months as the follow-up. The researcher reads 38 questions aloud twice to give each child a chance to answer or to repeat the questions if necessary. In the follow-up after three months, the children completed the Persian version of CKAQ-RIII questionnaire. In each sample, the researcher or teacher reads all the questions twice aloud, so that all children have the opportunity to answer the questions or, if necessary, repeat the questions. In general, children's understanding of the questions was good and appropriate, and there was little need for repetition. It is notable that the study was registered under the code IR.IAU.BOJNOURD.REC.1398.004 in the Ethics Committee of the Islamic Azad University and International Registry of Clinical Trial (ISRCTN17186302).

### STATISTICAL ANALYSIS

Preliminary analyses were performed to confirm that data distributions and variable relationships were not inconsistent with statistical assumptions. Internal consistency was evaluated by Cronbach's alpha, and construct validity through changes in the level of knowledge of sexual abuse between differ-

ent ages in 5 grades and also changes in the level of knowledge of sexual abuse as a result of intervention for ITS, ATS and both. Pearson correlation analysis between two subscales (ITS and ATS) and overall CKAQ-RIII scores were also performed to provide evidence of homogeneity. All analyses were performed with SPSS version 25 software.

## Results

### RELIABILITY

Internal consistency/reliability of the Persian version of CKAQ-RIII was examined using the reliability, internal consistency, and Cronbach's alpha coefficients for ITS and ATS subscales. Internal consistency for ITS (30 questions) was equal to  $\alpha=.85$  and for ATS (8 questions) was equal to  $\alpha=0.61$ .

### CONSTRUCT VALIDITY

#### *Evidence of differences in the level of knowledge in different grades (ages) in the baseline questionnaire*

One-way analysis of variance (ANOVA) was performed to investigate differences in knowledge levels by grade (second: 8 to 9 years of age; third: 9 to 10 years of age; fourth: 10 to 11 years of age; fifth: 11 to 12 years of age; sixth: 12 years of age) during the baseline questionnaire for both the ITS and ATS.

In relation to the ITS, the analysis showed a significant difference among children in different grades (ages) in terms of basic knowledge ( $F_{(1,96)}=145.83$ ,  $p<.001$ ). Comparisons during or after Bonferroni correction tests showed that the knowledge scores of children in the sixth grade ( $M=17.33$ ,  $SD=2.42$ ), fifth grade ( $M=15.58$ ,  $SD=4.12$ ) and fourth grade ( $M=14.73$ ,  $SD=2.96$ ) were much higher than those of children in the third grade ( $M=12.16$ ,  $SD=2.96$ ;  $p<.001$ ) and second grade ( $M=9.25$ ;  $SD=3.10$ ,  $p<.001$ ). Additionally, the level of knowledge in fourth-grade students was significantly higher than that in second-grade students ( $p<.001$ ). The findings of this study showed a randomized effect of grade (age) on knowledge level scores for the ATS ( $F_{(1,83)}=4.01$ ,  $p=0.132$ ).

#### *Evidence of pre/posttest and follow-up differences*

Repeated measures ANOVA (2 x 5) was performed separately for the ITS and ATS to assess changes in knowledge-level scores. Measurement time was considered a within-subjects factor at two levels (pre-test versus posttest), and grade was considered a between-subjects factor in five separate groups (second, third, fourth, fifth and sixth grades). Pre- and postintervention scores for children in the five grade groups and both scales are shown in table 1.

In relation to the ITS, children's knowledge increased significantly after the intervention ( $F_{(1,75)}=66.57$ ,  $p=.001$ ). Sixth- and fifth-grade students had significantly more knowledge than second- and third-grade students, indicating that the highest level of knowledge existed in sixth-grade students, while the second-grade students had the lowest level of knowledge.

In relation to the ATS, children's level of knowledge increased significantly after the intervention ( $F_{(1,75)}=20.22$ ,  $p=.000$ ), with the highest level of knowledge in fifth- and sixth-grade students.

#### *Evidence of homogeneity*

Pearson correlation coefficient analysis between the two CKAQ-RIII subscales and the overall scores showed a significant and positive relationship, meaning that the two subscales (the ITS and ATS) measured a similar construction and had satisfactory construct validity. Specifically, the correlation values between the overall scores of the CKAQ-RIII and ITS were  $r=0.93$ ,  $n=80$ , and  $p=.000$ , and those between the overall scores of the CKAQ-RIII and ATS were  $r=0.45$ ,  $n=80$ , and  $p=.000$ .

### CRITERION VALIDITY

The concurrent criterion validity was estimated based on a three-month follow-up assessment of the overall CKAQ-RIII scores and the ITS and ATS. The correlation coefficients were  $r=.94$ ,  $n=80$ , and  $p=.000$  between the ITS score and the overall score of the CKAQ-RIII and  $r=.56$ ,  $n=80$ , and  $p=.000$  between the total score of the CKAQ-RIII and the ATS score.

## Discussion

This study presents the baseline findings from the validation of the Persian version of CKAQ-RIII. The results showed that the Persian version offers high internal consistency in this tool's ITS subscale. This finding is consistent with that in Gangos study, who showed that the ITS is a reliable tool with which to assess the level of knowledge of concepts related to unsafe contacts, i.e., contacts in which there may be a risk of sexual abuse, and use the skills involved to protect themselves<sup>21</sup>.

This finding is consistent with that in Gangos research, which showed that ITS is a reliable tool for assessing the level of knowledge of concepts related to unsafe touch or contact, i.e., contacts that may be associated with a risk of sexual abuse and the skills involved in self-protection<sup>21</sup>. Specifically, in Tutty study, the internal consistency of the ITS was  $\alpha=0.87^{17,22}$ . Similarly, a South African study em-

**Table 1.** Descriptive statistics on Inappropriate Touch (ITS) and Appropriate Touch (ATS) Subscales.

Subscales	Groups	Grade 2 (n=16)		Grade 3 (n=25)		Grade 4 (n=15)		Grade 5 (n=12)		Grade 6 (n=12)	
		M	SD	M	SD	M	SD	M	SD	M	SD
Knowledge ITS	pre	9.20	3.10	12.10	2.96	14.73	2.96	15.00	3.78	15.83	5.40
	post	10.87	4.12	12.16	3.22	15.46	3.13	15.58	4.12	17.33	2.42
	follow-up	11.62	3.79	14.28	3.56	15.60	3.06	17.16	3.45	17.75	3.57
Knowledge ATS	pre	3.25	1.69	4.04	1.42	3.40	0.98	4.58	1.56	3.75	1.71
	post	3.50	1.54	4.32	1.40	3.86	1.55	5.50	1.83	4.08	1.92
	Follow-up	4.18	1.93	4.48	1.55	4.26	1.66	5.63	1.47	4.58	1.56

ploying the CKAQ-RIII questionnaire in the African, English, and isiXhosa languages indicated that the questionnaire provides reliable and accurate measurements of ITS<sup>23</sup>.

The Cronbach's alpha was also acceptable ( $\alpha=.78$ ) in a study applying the French version of the CKAQ-RIII<sup>24</sup>. In a study that used the CKAQ-RIII in Spanish (Sánchez & Sánchez, 2006), the questionnaire's internal consistency was  $r=.75$  according to the Kuder-Richardson Formula (K-R 20). Finally, Gangos, Nega, and Apergi's study calculated that the internal consistency in the questionnaire's Greek version was  $\alpha=.88$ <sup>21</sup>. In addition, the internal consistency of 8 ATS questions in the Persian version showing median results was assessed and indicated acceptable alpha values below 0.7, as Nunnally suggested<sup>25</sup>. These results may indicate that not all questions related to this scale, which focus on contacts or touches that are safe for children, are measured with the same structure. Similarly, in the English version of the CKAQ-RIII questionnaire administered to New Zealand elementary school students, a low value of K-R.62 was obtained, similar to the result found in this study<sup>26</sup>. Regarding the primary validity of the CKAQ-RIII<sup>16</sup>, the internal consistency of the ATS has not been evaluated because the ATS was not designed to identify the progress of children's knowledge. Rather, it acknowledged that children are not confused when faced with inappropriate contact or touch. In a subsequent study by Tutty, in which CKAQ-RIII was used to assess the level of knowledge after the intervention program, the researcher stated that there were no psychometric data for ATS<sup>17</sup>.

Cultural variables may affect how Iranian children respond. Previous research on touch culture and behavior has shown that in Southeast European cultures, touch and contact are much more acceptable than in Western European cultures. A recent study of a sample of 8942 participants from 42 countries, including Greece, revealed that people in warmer climates, such as the Mediterranean region, usually preferred closer interpersonal distances than those in colder regions<sup>27</sup>. In prevention programs involving "safe contacts or touches," which

deal with the concepts of contact connectivity, children who are more culturally adapted to contact and physical proximity and accept contact or touches from others may be confused by the instructions to further evaluate the quality or characteristics of a touch. Therefore, questions such as "It's okay for someone you love to hug you" and "Most kids want their parents to kiss them before they go to bed, so this is a good contact for them" may be confusing in terms of culture, text, content, and cognition among children in the primary school age group. In addition, the difficult phrasing in specific questions involving negative sentences makes it difficult for children to effectively understand and answer such questions<sup>28</sup>.

The ANOVA test was used for ITS and ATS to assess the difference in children's previous knowledge of the concepts of sexual abuse. As expected, sixth grade students had more knowledge of the concepts associated with inappropriate contact or touch, as well as the concepts of sexual abuse<sup>20</sup>.

When analyzing how the two groups evaluated new contacts as safe or appropriate, the scores did not differ significantly. This result is consistent with current publications that suggest that older children demonstrate greater knowledge of sexual abuse concepts than younger children<sup>29-31</sup>. Increased maturity is one possible explanation for this difference; older children can understand gender and the concepts of sexual abuse at a more advanced level. At the same time, these children are more likely to encounter such information through the media, interactions with peers or family members, and encountering such concepts in their standard curricula<sup>29</sup>. In a study in the United States, Oldfield et al. evaluated the effectiveness of a crime prevention program in schools and found that children who participated in the program had higher levels of knowledge of the CKAQ-RIII than children who did not; furthermore, older children also scored higher<sup>32</sup>. In a study from Germany using the CKAQ-RIII as a tool to assess children's knowledge before and after the prevention program, the experimental group showed a significant interactive effect between time and different groups and an

increase in their level of knowledge after the intervention compared to the control group<sup>33</sup>.

This study also examined the ATS's construct validity. The increase in knowledge after the intervention did not differ significantly between grades. While fourth-, fifth-, and sixth-grade students showed a slight increase in post-test knowledge, there was no significant change in the other grades. This finding may indicate that ATS-related questions are insensitive to changes in cognitive maturity. Moreover, ATS did not change significantly after the intervention. It has been suggested that knowledge of ATS concepts does not increase significantly after children participate in a sexual abuse prevention program because questions about "nonthreatening touches" in knowledge level measurements are not essentially related to the concept of "threatening touches"<sup>34</sup>. Thus, when prevention programs teach children how to identify threatening behaviors by both known and unknown individuals, test designs that theoretically describe safe behavior may be confusing and misleading. This is in line with the study by Tutty, which found that questions about the ATS level of knowledge may have implications for the prevention of sexual abuse<sup>17</sup>. In particular, given the concerns of parents and teachers that prevention programs cause generalized fear in children and that this fear causes children to have difficulty recognizing appropriate and inappropriate touch or contacts, appropriate scale questions should be included in the questionnaire<sup>35,17</sup>.

One of the limitations of this study is the composition of the sample. The children who participated in the study were from private schools that may not represent all of the country's schools, which limits the generalizability of the study's findings. In particular, there have been very limited studies in Persian on this subject. Due to environmental conditions and organizational constraints, it was impossible to pilot the project before the program was developed.

Increased number of articles, reports, and studies on the prevalence of child sexual abuse around the world has added to the importance of using the right psychological and comprehensive assessment tools to evaluate the effectiveness of child sexual abuse prevention programs. CKAQ-RIII has shown strong psychometric properties in both current and multiple studies around the world. The present study presents promising results on an Iranian tool needed to assess children's level of knowledge of the concepts of sexual abuse.

## Conclusions

In conclusion, the present study demonstrated that the Persian version of CKAQ-RIII is an effective and reliable tool in assessing the level of knowledge of the concepts of sexual abuse prevention, which are

usually taught in sexual abuse prevention programs. When it comes to preventing child sexual abuse in schools, especially in Iran where there is very limited infrastructure, prevention in schools is especially important. That the Persian version of CKAQ-RIII is an effective aid in this regard, and researchers can use it to evaluate the effectiveness of prevention programs and the level of knowledge of sexual abuse prevention among primary school children in Iran.

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*Availability of data and materials:* full availability of data and materials. All stated data can be provided on request to the reader.

*Conflict of interests:* the authors have no conflict of interests to declare.

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