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Why do some Mexicans with psychosis risk symptoms seek mental health care and others do not?

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ABSTRACT

Help-seeking barriers differ according to the sociocultural context and country-specific mental healthcare system. More research is needed in low-middle-income countries, where early psychosis programs are still scarce, and the mental health care gap is wide. This study aims to explore predisposing, enabling, and need factors associated with mental health service utilization in 481 Mexicans self-reporting psychosis risk symptoms, as well as differences between those who were currently mental health service users (MHSU) and those who were not (non-MHSU). Participants responded to self-reported measures through an online survey. The factors associated with an increased probability of using mental health services were having an occupation, having a medium/high socioeconomic status, an intention to seek help from a mental health professional, fewer help-seeking barriers, moderate/severe anxious symptoms, higher distress associated with psychosis risk symptoms and social functioning impairment. Findings provide relevant information for designing more effective strategies to improve help-seeking, early identification, and timely treatment delivery in Mexico. The need to generate strategies focused on reducing stigma, enhancing psychosis literacy in the community, and increasing the identification of emerging signs of psychosis in primary healthcare professionals is highlighted, mainly when co-occurring with other psychiatric symptoms.

1. Introduction

The psychosis risk syndrome is defined by the presence of either attenuated or transient positive psychotic symptoms, along with complex, undifferentiated, and heterogeneous symptomatology of non-psychotic comorbid symptoms (such as mood, anxiety, and obsessive-compulsive) and impairment of cognitive and psychosocial functioning (Fusar-Poli et al., 2014a; Salazar de Pablo et al., 2020; Solmi et al., 2023).

Individuals at risk for psychosis experience difficulties in multiple domains of life (Ben Davis et al., 2019a). Therefore, they require appropriate early interventions with a comprehensive transdiagnostic assessment and monitoring approach, given that some of them (around 25 %; Salazar de Pablo et al., 2021) will eventually transition to

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psychosis; most of them will not but will present persistent comorbid psychiatric conditions (Allan et al., 2021; Bhavsar et al., 2021; Fusar-Poli et al., 2013; Rutigliano et al., 2016; Salomi et al., 2023; Scott et al., 2009; Staines et al., 2022).

Despite early detection and intervention efforts, many individuals with the first signs of psychosis still spend between one and two years without seeking adequate treatment, and most are reluctant to seek formal mental health services (Cechnicky et al., 2014; Gulliver et al., 2010; Tanskanen et al., 2011; Pretorius et al., 2019). Evidence has shown that a longer delay in accessing the mental healthcare system and starting an appropriate treatment is associated with more severe psychotic symptoms, poorer functioning, poor treatment adherence, higher suicide risk, and further hospitalization (Hongyun et al., 2014; Jabar et al., 2021; McGorry et al., 2021; Melle et al., 2006).

Research focused on barriers and facilitators for help-seeking among young people at risk for psychosis is limited. Some qualitative studies have highlighted the professional support outside the home, the earlier involvement of caregivers and peers, and social networks as facilitators (Boydell et al., 2013; Byrne and Morrison, 2010; Causier et al., 2024; Welsh and Tiffin, 2012). Recent qualitative research focusing on engagement with mental health services among 30 US young adults at risk for psychosis highlights the importance of contextual factors (such as social, community, and online networks), individual factors (such as level of awareness, stigma, and emotions), and environmental factors (such as geographic, transportation and service access; Ben-David et al., 2019a). The same research group found that the patients at risk for psychosis attending a prodromal clinic reported positive beliefs towards services, probably because they were motivated help-seekers (Ben-David et al., 2019b). So, they highlight the importance of considering the non-help-seekers in future studies to better understand the mental health service utilization among people at risk for psychosis (Ben-David et al., 2019b, 2022).

Andersen's (1995) behavioral model for health services utilization is a well-known theoretical framework that includes personal and circumstantial factors contributing to the use of health services, according to people's predisposition to use services, factors that enable or impede use, and their need for care. As shown in Fig. 1, predisposing factors refer to the socio-cultural characteristics of individuals that are present prior to their illness, including demographics (e.g., age, gender, race), social structure (e.g., education), and health beliefs (e.g., attitudes and knowledge towards the healthcare system). The enabling factors are personal/family and community logistical aspects of obtaining care (e.g., income, health insurance, social support, available health personnel and facilities). Need factors constitute the most immediate cause of health service use (e.g., individuals' perception of their health status, symptoms, and need for care; Andersen, 1995). This model has been extensively used in research to understand access and use of health services and to identify factors that influence an individual's decisions regarding the utilization of such services (Alkhawaldeh et al., 2023).

Some of the predisposing factors that constitute common barriers to professional help-seeking and mental health service contact are related to stigma (e.g., negative beliefs and attitudes surrounding mental illness, embarrassment or concern about other people finding out) and poor mental health literacy (e.g., lack of knowledge regarding mental disorders and the mental health care system or where to seek specialized treatment, difficulty in recognizing the symptoms). In contrast, higher education and increased mental health literacy encourage help-seeking behaviors (Abram et al., 2008; Anderson et al., 2013; Andrade et al., 2014; Bay et al., 2016; do Santos Martin et al., 2018; Fekih-Romdhane et al., 2023; Gronholm et al., 2017; Gulliver et al., 2010; Pretorius et al., 2019; Rickwood et al., 2005). Social support is an important enabling factor for help-seeking (Gulliver et al., 2010). Several studies have shown that the lack or scarcity of enabling factors represents structural barriers that hinder help-seeking, such as finance and lack of availability of services (e.g., insufficient resources/services, geographic distance from services, difficulty getting connected to specialty care when warranted, inability to obtain an appointment or waiting lists, concern about cost or insurance-related barriers; Andrade et al., 2014; Fox et al., 2001; MacDonald et al., 2021; Zarubin et al., 2023). Finally, evidence indicates that some of the main help-seeking barriers are related to a low perceived need for treatment or self-reliance (e.g., feeling like they can handle the problem on their own), help-negation or resistance to psychiatric treatment (e.g., the belief that the problem will go away without any help or concerns about the ineffectiveness of treatment; Abram et al., 2008; Anderson et al., 2013; Andrade et al., 2014; Bay et al., 2016; do Santos Martin et al., 2018; Gronholm et al., 2017; Gulliver et al., 2010; Pretorius et al., 2019; Rickwood et al., 2005).

1.1. The present study

Evidence shows that help-seeking patterns and barriers to care vary across countries due to differences in healthcare infrastructure and public policies (Judge et al., 2005). Currently, data available on barriers to help-seeking has primarily been conducted in Western developed countries (Andrade et al., 2014), where the availability and accessibility of mental health resources, as well as pathways toward care, are very

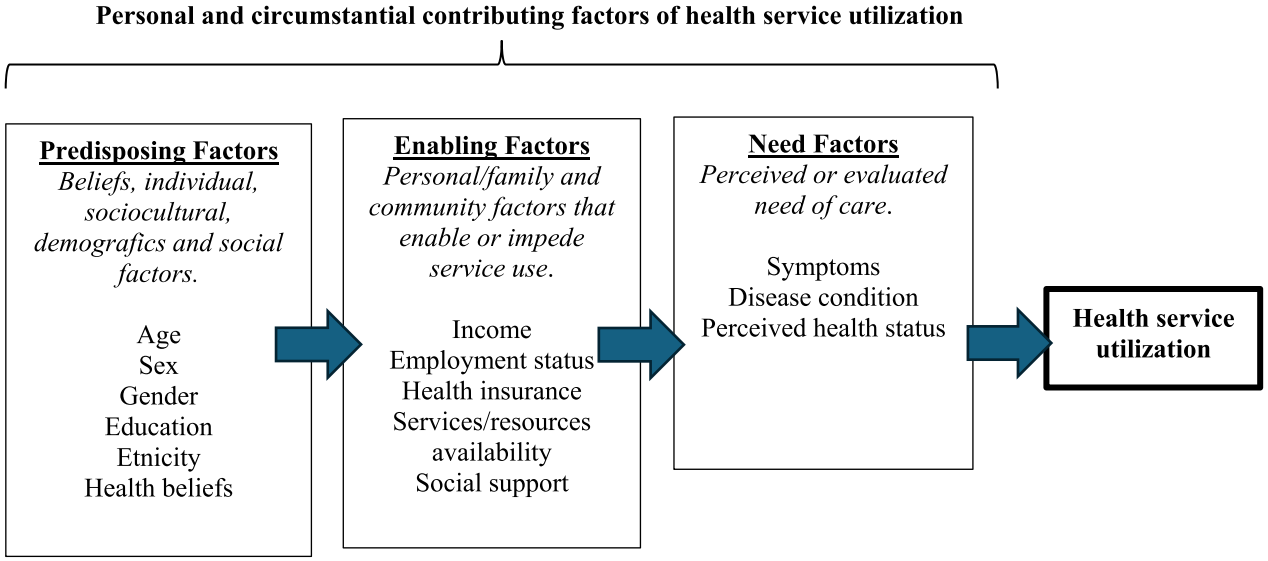

Fig. 1. Andersen model of health service utilization.

different from those of low and middle-income countries (LAMIC; Aceituno et al., 2024; Liford et al., 2020; Loch et al., 2023; Roberts et al., 2018). Care pathways for mental health problems in LAMICs are considered complex and pluralistic, including cultural and religious healers (Fekih-Romdhane et al., 2023; Liford et al., 2020; MacDonald et al., 2018). There is also a gap between policy and financing (Saxena et al., 2003) that negatively impacts regular mental healthcare delivery in LAMICs, such as generalized underfunding of mental healthcare, insufficient resources, inefficient services due to population density, weak integration with primary care, and lack of trained personnel (Andrade et al., 2014; Essien and Asamoah, 2020; Loch et al., 2016; Weinmann and24 Koester, 2016). Regarding barriers to care-seeking, specifically in people with psychotic symptoms from LAMICs, stigma toward psychosis and low mental health literacy represent major problems for contact with health services that delay early identification and increase the duration of untreated psychosis (Bhikha et al., 2012; Ehmann et al., 2014; Gallimore et al., 2023; Loch et al., 2023; Wade et al., 2017).

In Mexico, where the present research was conducted, the mental health care gap is wide (80 %) and represents a public health problem (Kohn et al., 2018). Due to the lack of services at the primary and community care levels, most people with schizophrenia or psychotic disorders are treated in psychiatric hospitals concentrated in the capital or large cities (Aceituno et al., 2019; Díaz-Castro et al., 2022; Torres--González et al., 2009), making access difficult for rural and indigenous populations. Furthermore, there is a significant lack of preventive programs and early psychosis care services that hinder early detection and timely treatment delivery.

Recent research has indicated a high prevalence of clinical high-risk for psychosis in Mexico (Domínguez-Martínez et al., 2023). However, to our knowledge, there is no previous research reporting barriers to help-seeking or factors associated with mental health services utilization in Mexicans with psychosis risk symptoms. Understanding the reasons and sociocultural factors behind long delays in help-seeking among Mexican individuals at risk of developing psychosis is crucial to addressing preventive interventions, improving service utilization, and bridging the mental health care gap among this vulnerable population. This study draws on Andersen's behavioral model of health services utilization to explore in a sample of Mexican individuals self-reporting psychosis risk symptoms, the differences regarding predisposing, enabling, and need factors between those who are currently mental health service users (MHSU) and those who are not (non-MHSU), as well as to explore which of those factors that differ between groups are associated with mental health service utilization.

2. Method

This is an exploratory, descriptive, cross-sectional online study, which is part of a larger research project examining risk and protective factors for subclinical psychopathology in Mexicans aged between 15 and 45 years from the general population. Participants voluntarily agreed to participate in an online survey administered via Qualtrics® software and distributed via personal and institutional (health and educational institutions) social media channels between March 2022

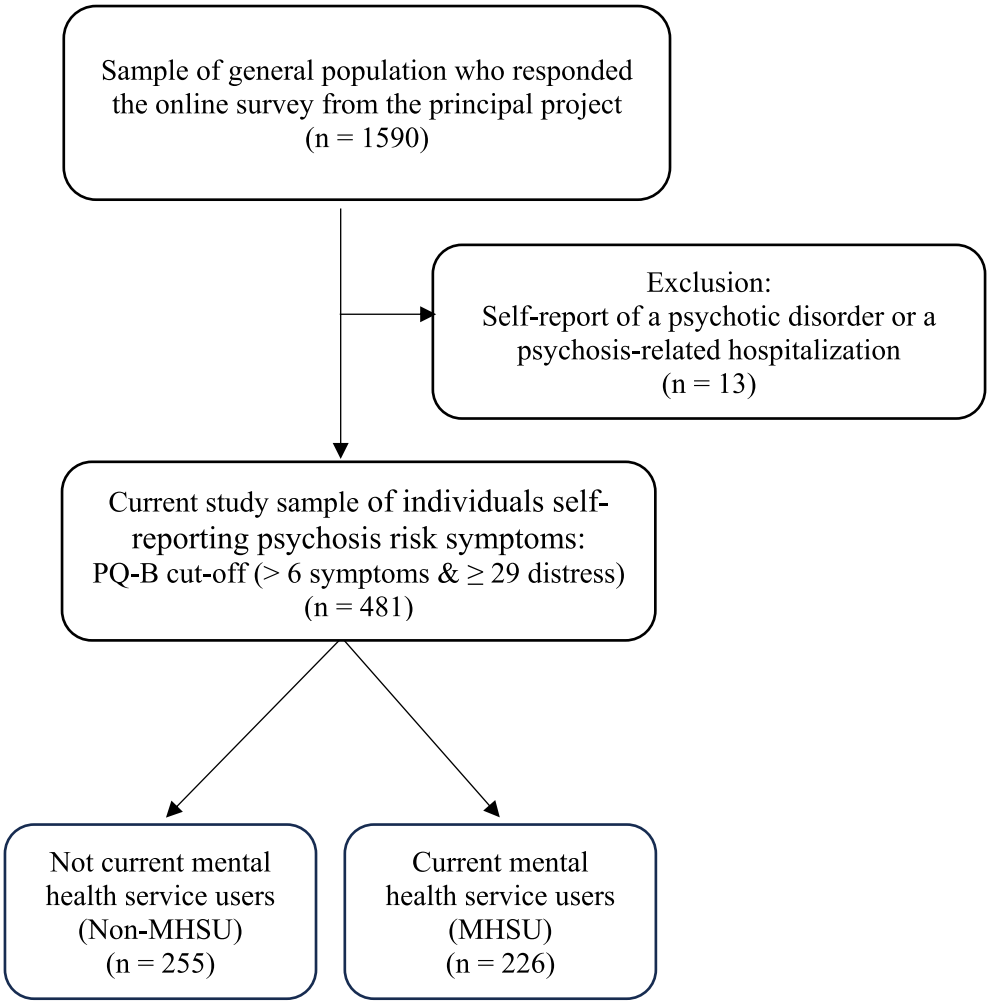

Fig. 2. Flowchart summary of the sample selection procedure.

and October 2023. Participants provided informed consent and were not compensated for completing the survey. The study was approved by the Research Ethics Committee of the Ramón de la Fuente Muñiz National Institute of Psychiatry (CEI/C/019/2021) and conformed to the Helsinki Declaration.

A subsample of individuals with self-reported psychosis risk symptoms was selected from the larger project, following the Prodromal Questionnaire-Brief (PQ-B) cut-off criteria (> 6 positively endorsed items and ≥29 on the distress scale; Fonseca-Pedrero et al., 2016). The exclusion criterion was self-reporting a psychotic spectrum disorder or a psychosis-related hospitalization (Fig. 2).

2.1. Variables and measures

Sociodemographic and clinical background: Participants provided sociodemographic and self-report information about prior history of mental health problems and lifetime and current mental health treatment. Regarding mental health treatment, participants indicated whether they were currently receiving treatment for emotional or mental health problems (current MHSU) and whether they had received other mental health treatment (different from the current treatment) at any other time in their lives (lifetime MHSU).

Psychosis risk symptoms: The PQ-B (Fonseca-Pedrero et al., 2016) was used to assess self-reported psychosis risk symptoms. It comprises 21 items rated dichotomously (yes/no), and each endorsed item is further rated on a five-point scale to determine the distress associated with psychosis risk symptoms.

Depression and anxiety symptoms and suicidal ideation: The WHO's revised classification of mental disorders for primary care settings (ICD-11 PHC; García et al., 2021) was used to assess the severity of depression, anxiety, and suicidal risk during the last two weeks. It includes ten items with a yes/no response option, with five of them assessing depression (including one assessing suicidal ideation) and the other five assessing anxiety. For each anxiety and depression scale, the first two key questions are always asked, and the remaining three are answered only if the participant responds affirmatively to one of the two key questions. For the Mexican population, a cut-off point of three points was established for the identification of depression and/or anxiety. The suicidal risk was determined if participants responded '*yes*' to the item "*During the past two weeks, have you felt you wanted to die or had thoughts of death?*". This question was only answered by those who responded affirmatively to one of the first two key questions of depression.

Personality disorder: The Standardized Assessment of Severity of Personality Disorder (SASPD; Gutiérrez et al., 2021) was used to assess the severity of the ICD-11 personality domains through nine items and a four-point Likert scale.

Social functioning: The Social Functioning Questionnaire (SFQ; Tyrer et al., 2005) was used to assess perceived social functioning. It includes eight items with a four-point Likert scale, where ≥10 scores represent poor social functioning.

Perceived cognitive impairment: The Measurement of Insight into Cognition-Self report (MIC-SR; Fresán et al., 2024) includes 12 items for assessing the perceived frequency of cognitive impairment through a four-point Likert scale, with higher scores indicating worse subjective cognitive problems.

Stress perception: The 10-item version of the Perceived Stress Scale (PSS; González-Ramírez et al., 2013) assesses the level of perceived stress during the last month. Items are rated on a five-point Likert scale and summed to obtain a total score, with higher scores indicating greater perceived stress.

Intention to seek help: Based on the items from the General Help-Seeking Questionnaire (GHSQ; Olivari and Guzmán-González, 2017), this study inquired about the sources participants would seek help from if they had a personal or emotional problem in a yes/no response format. For the present study, the three-factor interpretation was used: informal help sources (partner, friend, father/mother, other relatives), formal help sources (mental health professional, helpline, physician), and not seek help from any source.

Barriers to help-seeking: The Barriers to Adolescents Seeking Help Scale, brief version (BASH-B; Olivari and Guzmán-González, 2018) includes 11 items to assess perceived barriers to help-seeking for mental health problems. A higher score indicates a perception of greater barriers to seeking help.

Social support: The Multidimensional Scale of Perceived Social Support (MSPSS; Ruiz-Jiménez et al., 2017) evaluates people's perceived social support through 12 items with a seven-point Likert scale.

2.2. Statistical analysis

According to the variables' nature, descriptive statistical analyses were conducted using frequencies, percentages, means, and standard deviation.

Chi-square tests and independent sample Student's *t*-tests were used to compare the predisposing, enabling, and need variables between groups (MHSU vs. non-MHSU). Cramer's V for chi-square tests and Cohen *d* for *t*-tests were obtained to determine the effect sizes of the comparisons, with results being classified as small (0.2–0.3), medium (0.4–0.7), and large (>0.8).

Multicollinearity was determined by the variance inflation factor (VIF), which ranges between 1.07 and 2.73, indicative of a minimal to moderate correlation among variables that do not affect the regression estimates nor the p-values in regression models. With this, two multivariate logistic regression models were performed to determine which predisposing, enabling, and need factors were associated with current mental health service utilization. All the variables that differed between MHSU and non-MHSU users were introduced as explanatory variables in the first model. The backward stepwise modeling was then applied to this first regression model, and variables that remained significant were included. The Hosmer and Lemeshow test was used to assess the model's goodness of fit.

Some variables were classified (dummy coded) into auxiliary variables to perform the regression analysis using their defined cut-off points and were represented by two values, "0″ and "1″: marital status (1=married/living with partner/have a partner, 0=single/divorced/separated), education (1=high school or higher, 0=middle school), current occupation (1=student, economically remunerated activity, 0=unemployed/non-remunerated activity), socio-economic status (1=medium/high, 0=low). The cut-off points for anxiety (≥3), personality disorder (≥10), and social functioning (≥10) were used for the regression analysis. The alpha value for tests was set at p≤0.05. All analyses were performed using SPSS Statistics 21.

3. Results

3.1. Participants

The sample consisted of 481 Mexicans self-reporting psychosis risk symptoms. The average age of the sample was 27.1 years (SD=8.3; range= 15–45 years, n = 479), with most of the participants being women (80.2 %; n = 386). From the whole sample, 46.9 % (n = 226) were currently MHSU, and the remaining 53.1 % (n = 255) were not (non-MHSU). For the MHSU group, the median duration between the year of initiation of the current treatment and the survey response was one year (M = 2.8; SD=3.9).

3.2. Differences between individuals with self-reported psychosis risk symptoms who were mental health service users (MHSU) and those who were not (non-MHSU)

Table 1 presents the descriptive sociodemographic data and predisposing factors of mental health service use of the total sample, MHSU and non-MHSU, and the differences between these groups. Compared

Table 1
Comparison of predisposing factors to use mental health services between individuals with psychosis risk symptoms who are currently mental health service users and those who are not.

	Total sample (n = 481)		Non-MHSU (n = 255)		MHSU (n = 226)		Statistics
	Mean	S.D	Mean	S.D	Mean	S.D	
Age (Rage=15–45)	27.2	8.4	25.8	8.4	28.7	8.1	**$t(479) = -3.8^{***}$; d=0.36**
	n	%	*n*	%	*n*	%	
Sex							
Women	386	80.2	196	76.9	190	84.1	**$X^2(1)$=3.9* Cramer's v=0.09**
Men	95	19.8	59	23.1	36	15.9	
Marital status							
Single	279	58.0	159	62.4	120	53.1	**$X^2(4)$=10.0***
Married/living with partner	83	17.3	40	15.7	43	19.0	**Cramer's v=0.14**
Have a partner	93	19.3	47	18.4	46	20.4	
Divorced/separated	24	5.0	7	2.7	17	7.5	
Widowed	2	0.4	2	0.8	-	-	
Education							
Middle school	47	9.8	30	11.8	17	7.5	**$X^2(4)$=13.3** Cramer's v=0.16**
Technical education	10	2.1	5	2.0	5	2.2	
High school	182	37.8	111	43.5	71	31.4	
Bachelor's degree	190	39.5	84	32.9	106	46.9	
Postgraduate studies	52	10.8	25	9.8	27	11.9	

Abbreviations: MHSU: Mental Health Service Users.
Significant results are highlighted in bold.
* $p \leq 0.05$
** $p \leq 0.01$
*** $p \leq 0.001$

with the non-MHSU group, participants from the MHSU group were older and had higher educational attainment.

Enabling factors for mental health service use are described in Table 2. A higher percentage of the non-MHSU group were students and reported a low-middle socioeconomic status. A similar proportion of participants in both groups had received specialized mental health treatments at any moment in their lives; nevertheless, a higher number of participants from the MHSU group had received psychiatric treatment or both psychiatric and psychological treatment. The MHSU group reported a higher frequency of seeking help from mental health professionals than the non-MHSU group. Notably, more participants from the MHSU group indicated that they would seek help from any source, informal or formal. The MHSU group also reported fewer barriers in help-seeking and higher social support than the non-MHSU group.

Need factors for mental health service use can be seen in Table 3. The MHSU group reported higher perceived distress associated with self-reported psychosis risk symptoms and higher severity in the majority of the clinical and functional severity variables (except for depression), including a higher frequency of reported suicidal risk within the last two weeks.

3.3. Predisposing, enabling, and need factors associated with mental health service utilization

As seen in Table 4, findings showed that factors associated with the probability of mental health service utilization, according to Andersen's model, were *enabling factors*: having an occupation (student/paid job, having a medium/high socioeconomic status, intention to seek a mental health professional as a help source and fewer help-seeking barriers; *needs factors*: moderate/severe anxious symptoms, higher distress associated with self-reported psychosis risk symptoms and poor/inadequate social functioning. None of the predisposing factors were significantly associated with mental health service utilization.

4. Discussion

The current study aimed to expand knowledge about the characteristics of Mexican youth self-reporting psychosis risk symptoms, specifically of those who were not currently receiving mental health treatment, to inform early detection and intervention efforts that are particularly scarce in Mexico. For this purpose, we apply Andersen's theoretical framework to reach a comprehensive understanding of predisposing, enabling, and need factors associated with the probability of use of mental health services among Mexicans self-reporting psychosis risk symptoms.

Comparisons between those who were MHSU and non-MHSU showed several important differences that may help us to understand why some of the Mexicans with psychosis risk symptoms are not currently seeking mental health care. As compared with the MHSU group, the non-MHSU group was characterized by younger participants, mostly students with high school education, from low-middle socioeconomic status, with less social support, more barriers to help-seeking, lower perceived stress, and overall lower severity of psychopathology, including the distress associated with self-reported psychotic risk symptoms, anxiety, personality disorder, suicidal risk, and lower impairment in social and cognitive functioning. Findings are consistent with some studies suggesting that lower education and socioeconomic status, and less social support seem to hinder help-seeking (Gonzalez et al., 2011; Gulliver et al., 2010; Roberts et al., 2018), while the cases with higher clinical severity are more likely to use services and recognize the need of care (Andrade et al., 2014; Roberts et al., 2018).

Differences by groups also indicate that the non-MHSU group seems to be characterized by individuals presenting a variety of psychiatric symptoms, including psychotic-like experiences, which are probably not distressing enough and, therefore, do not encourage help-seeking (Chung et al., 2010; van Os et al., 2009). In contrast, the MHSU group appears to be integrated mainly by participants at ultra-high-risk for psychosis given its clinical severity and functional impairment, the higher distress associated with psychosis risk symptoms, and their help-seeking behavior (Falkenberg et al., 2015; Fusar-Poli et al., 2014b).

Most of the MHSU group reported intention to seek help from mental health professionals, and an important percentage of both groups indicated that they were willing to seek help from informal sources. Although scarce information is available about barriers and facilitators for help-seeking in young people at risk for psychosis, findings support some previous studies suggesting that young people are more likely to use informal help sources than formal ones when they need help (Rickwood et al., 2005; Pretorius et al., 2019). Moreover, evidence

Table 2
Comparison of enabling factors to mental health service use between individuals with psychosis risk symptoms who are currently mental health service users and those who are not.

	Total sample (n = 481)		Non-MHSU (n = 255)		MHSU (n = 226)		Statistics
	n	%	*n*	%	*n*	%	
Current occupation							
Unemployed/ never worked	34	7.1	23	9.0	11	4.9	**X^2(3)= 14.1****
Student	195	40.5	115	45.1	80	35.4	**Cramer's v=0.17**
Not paid work	28	5.8	18	7.1	10	4.4	
Paid work	224	46.6	99	38.8	125	55.3	
Socioeconomic Status							
Low	174	36.2	108	42.4	66	29.2	**X^2(2)= 11.7****
Medium	287	59.7	141	55.3	146	64.6	**Cramer's v=0.16**
High	20	4.2	6	2.4	14	6.2	
Lifetime MHSU	173	36.0	100	39.2			**X^2(3)= 18.1*****
No	189	39.3	112	43.9	73	32.3	**Cramer's v=0.19**
Yes, psychological	28	5.8	10	3.9	77	34.1	
Yes, psychiatric	91	18.9	33	12.9	18	8.0	
Yes, psychiatric and psychological					58	25.7	
Current MHSU	255		-	-	-	-	-
No	82	53.0	-	-	82	36.3	
Yes, psychological	45	17.0	-	-	45	19.9	
Yes, psychiatric	99	9.4	-	-	99	43.8	
Yes, psychiatric and psychological		20.5					
Informal help sources[a]							
Partner	178	37.0	89	34.9	89	39.4	X^2(1)=1.0
Friend	249	51.8	134	52.5	115	50.9	X^2(1)=0.1
Father/ Mother	182	37.8	95	37.3	87	38.5	X^2(1)=0.08
Other relative	96	20.0	46	18.0	50	22.1	X^2(1)=1.2
Formal help source[a]							
Mental health professional	218	45.3	74	29.0	144	63.7	**X^2(1)= 58.2*****
Helpline	23	4.8	16	6.3	7	3.1	X^2(1)=2.7
Physician	25	5.2	11	4.3	14	6.2	X^2(1)=0.9
They would not seek help from any source	67	13.9	43	16.9	24	10.6	**X^2(1)=3.9***
	X	*SD*	*X*	*SD*	*X*	*SD*	
Perceived social support	54.7	14.1	53.1	15.4	56.5	14.3	**t(479)= -2.5*; d=0.2**
Help-seeking barriers[b]	31.4	10.9	34.3	10.9	28.1	9.8	**t(479)= 6.3***; d=0.6**

Abbreviations: MHSU: Mental Health Service Users.
[a] Participants were able to select more than one informal or formal help source.
[b] A higher score indicates a perception of greater barriers to seeking help.
Significant results are highlighted in bold.
* $p \leq 0.05$
** $p \leq 0.01$
*** $p \leq 0.001$

Table 3
Comparison of need factors to mental health service use between individuals with psychosis risk symptoms who are currently mental health service users and those who are not.

	Total sample (n = 481)		Non-MHSU (n = 255)		MHSU (n = 226)		
	X	*SD*	*X*	*SD*	*X*	*SD*	Statistics
Distress associated with psychosis risk symptoms	46.0	14.5	44.1	13.1	48.2	15.6	**t(441.2)= -3.0**; d=0.3**
Severity of personality disorder	10.3	4.0	9.9	4.1	10.7	3.8	**t(479)= -2.0*; d=0.2**
Severity of depression	3.5	1.6	3.6	1.6	3.5	1.7	**t(479)= 0.5**
Severity of anxiety	3.5	1.1	3.4	1.2	3.7	1.1	**t(479)= -2.7**; d=0.3**
Social functioning	10.9	3.8	10.3	3.9	11.6	3.7	**t(479)= -3.5***; d=0.3**
Cognitive impairment	20.7	8.7	19.7	8.6	21.9	8.7	**t(479)= -2.7**; d=0.3**
Stress perception	23.3	7.0	22.7	6.9	24.0	7.1	**t(479)= -2.0*; d=0.2**
	***n* = 424**		***n* = 229**		***n* = 195**		
	n	**%**	***n***	**%**	***n***	**%**	
Suicidal risk within the last two weeks[a]							**X^2(1)= 7.3**; Cramer's v=0.12**
No	182	42.9	112	48.9	70	35.9	
Yes	242	57.1	117	51.1	125	64.1	

Abbreviations: MHSU: Mental Health Service Users.
Significant results are highlighted in bold.
[a] Suicide risk question was only answered by those who responded affirmatively to one of the first two key questions of the depression scale.
* $p \leq 0.05$
** $p \leq 0.01$
*** $p \leq 0.001$

indicates that families or friends are usually the first to recognize behavioral changes of psychosis onset but attribute the symptoms to reasons other than psychosis, including normal adolescence or depression (Bay et al., 2016; Judge et al., 2005), which, in turn, is associated with delayed help-seeking. Considering that family members represent the main source of support during adolescence and early adulthood and are responsible for searching for mental health services (Anderson et al., 2010; Conor et al.,2016; do Santos Martin et al., 2018; Ferrari et al., 2015; Hasan et al., 2017), it is essential to increase awareness and mental health literacy in the general population through community campaigns aimed at improving the knowledge about early signs of psychosis (López et al., 2022) and available services, thus influencing the population's help-seeking behavior and reducing the duration of untreated psychosis (Altweck et al., 2015; Andrade et al., 2014; Birchwood et al., 2013; Gallimore et al., 2023; López et al., 2009; Melle et al., 2004; Srihari et al., 2022).

Consistent with previous clinical and epidemiological studies, psychosis risk symptoms in our sample co-occur with a variety of psychiatric symptomatology as part of a dynamic network of symptoms, which can further develop into a range of mental disorders (Booij et al., 2018; Guloksuz et al., 2020; Nelson et al., 2017; Steines et al., 2022). Thus, early detection and intervention efforts need to consider that the high-risk for psychosis phenomenon is characterized by a wide range of undifferentiated and heterogeneous symptomatology (Fusar-Poli et al., 2014a; Salomi et al., 2023) that require a comprehensive transdiagnostic assessment and monitoring approach, as some will eventually remit or persist over time and transit to either psychotic or other mental disorder (Allan et al., 2021; Fusar-Poli et al., 2013; Lee et al., 2018; Rutigliano et al., 2016; Salomi et al., 2023).

Following Andersen's model, having an occupation and having a medium/high socioeconomic status emerged as enabling factors for MHSU. Regarding the Mexican context, the scarcity of public preventive

Table 4
Predisposing, enabling and need factors associated to mental health service utilization.

	Initial Model			Final Model		
	OR	95 % C.I.		OR	95 % C.I.	
Predisposing Factors						
Age	1.02	0.99	1.05	-	-	-
Sex – women	1.51	0.84	2.71	-	-	-
Marital status – partnered	0.96	0.58	1.58	-	-	-
Education – high-school or higher	0.95	0.47	1.95	-	-	-
Enabling factors						
Current occupation – student/paid work	**2.75****	1.35	5.58	**2.61****	1.03	5.23
Socioeconomic status – medium/high	1.62	0.98	2.68	**1.64***	1.01	2.67
Lifetime MHSU – yes	1.03	0.63	1.68	-	-	-
Formal help sources, mental health professional – yes	**3.06*****	1.89	4.93	**3.25*****	2.03	5.18
Seek help from any source – yes	1.07	0.51	2.24	-	-	-
Perceived social support	1.01	0.99	1.03	-	-	-
Help-seeking barriers	**0.94*****	0.92	0.97	**0.94*****	0.91	0.96
Need factors						
Distress associated with psychosis risk symptoms	1.01	0.99	1.03	**1.02***	1.003	1.03
Personality disorder – moderate/severe	1.02	0.95	1.10	-	-	-
Anxiety – yes	1.70	0.81	3.59	**2.11***	1.03	4.32
Social functioning – poor/inadequate	1.62	0.90	2.93	**1.70***	1.01	2.86
Cognitive impairment	1.17	0.80	1.70	-	-	-
Stress perception	1.01	0.96	1.05	-	-	-
Suicidal risk within the last two weeks – yes	1.59	0.95	2.65	-	-	-

* $p \leq 0.05$
** $p \leq 0.01$
*** $p \leq 0.001$
Initial Model: R^2 Nagelkerke=0.31 Test Hosmer and Lemeshow= $p = 0.33$
Final Model: R^2 Nagelkerke=0.29 Test Hosmer and Lemeshow= $p = 0.35$
Hyphen (-) indicates variables which did not enter in the regression model.
Significant results are highlighted in bold.

programs and community mental health services might make them less accessible for those with fewer economic resources, and it is not surprising that those with a remunerated activity and more favorable socioeconomic status were more likely to receive attention as they can probably afford private care. This study did not investigate the participant's private insurance or social/public security, which would be important to consider in future studies to determine whether it influences public and/or private service utilization (Roberts et al., 2018). Another explanation of the association of occupation with a higher probability of MHSU could be due to the potential impact of psychosis-risk symptoms on the performance of educational/occupational activities, which probably predisposes help-seeking behaviors.

Fewer help-seeking barriers and a greater intention to seek help from a mental health professional were also enabling factors, highlighting the relevance of strengthening them through public policies targeting structural barriers to improve service availability and accessibility (Andrade et al., 2014). Based on evidence showing that education is associated with better receptivity and helpfulness perception of mental health services, as well as with willingness to seek services (Gonzalez et al., 2011), it is essential to develop community-level awareness campaigns addressed to enhance the psychosis literacy of the general population, specifically focused on demystifying stigmatizing misconceptions of psychosis spectrum disorders and negative cultural beliefs about mental health care that hinder treatment seeking (Salinas-Oñate et al., 2022). Moreover, considering that almost half of the non-MHSU group had received lifetime psychological treatment, it would be important that mental health professionals improve the patient's perception of the usefulness of the treatment, reduce emotional reactions to seeking services (e.g., shame and fear), and enhance patients' satisfaction with services that may facilitate future contact (Salinas-Oñate et al., 2022; Harris et al., 2024).

The factors associated with the greatest need for mental health services use were higher severity of anxiety symptoms, higher distress associated with self-reported psychosis risk symptoms, and social functioning impairment. This supports the early psychosis literature stating that the main criterion stipulated for establishing the ultra-high-risk for psychosis status is that psychosis risk symptoms be sufficiently distressing and disabling to the individual to warrant clinical attention (Yung and Nelson, 2013; Fusar-Poli and Yung, 2012). Another important finding was that among all the symptoms assessed, those associated with service utilization were anxiety symptoms, probably because of the subjective perception of these symptoms as more troubling or distressing than other co-morbid symptoms (e.g., depression), to the extent that it encourages help-seeking (Falkenberg et al., 2015; McAusland et al., 2017). This is in line with Rietdijk et al. (2013), who confirmed that many patients with psychotic disorders had been help-seeking for other mental conditions before the onset of psychosis. Previous research has shown, on the one hand, that despite attenuated psychotic symptoms being a defining feature of the at-risk for psychosis syndrome it may not be the only distressing factor triggering help-seeking behavior (Falkenberg et al., 2015), and, on the other hand, that anxiety is associated with more severe attenuated psychotic symptoms and it is one of the most commonly reported reasons to seek help and service utilization (Falkenberg et al., 2015; McAusland et al., 2017; Robert et al., 2018). Therefore, it is important for healthcare professionals to further screen psychotic-like symptoms in help-seeking populations with anxiety in their clinical practice to improve the early identification of psychotic risk symptoms (Rietdijk et al., 2013).

This study has some limitations that should be considered when interpreting the results. Due to the study's cross-sectional nature, causality inferences are limited. Another limitation is related to the method of recruiting the data through an online survey, which limits the participation of those who do not have Internet access or were reluctant to answer online questionnaires due to their early psychotic or anxiety symptoms. Furthermore, the self-report measures are susceptible to reporting biases. Another limitation was that we did not explore specific information on the type of mental health service participants received (public or private), nor data on users' insurance or beliefs about mental health services, which could provide useful information on help-seeking barriers. Further community-based studies, looking into those aspects not explored in the present study, could add more depth to the current findings to better understand barriers and facilitators of help-seeking in Mexico.

5. Conclusion

This study represents one of the first investigations that evaluate the barriers to help-seeking and factors associated with service utilization in young Mexicans with self-reported psychosis risk symptoms. Overall, the findings provide relevant information to understand better why some Mexicans self-reporting psychosis risk symptoms are not using mental health services, which is useful for designing more effective strategies to improve help-seeking and timely treatment delivery in Mexico. Some strategies for reducing the care gap need to focus on reducing the stigma associated with psychosis and mental health treatment and enhancing psychosis literacy through community-based mental health education, effective public informational campaigns focused on raising awareness of the importance of recognizing the early signs and symptoms of psychosis and help-seeking, mainly targeted to the general population, but also to specific groups such as parents, adolescents, educational staff, and community organizations (Bay et al., 2016; Gallimore et al., 2023; López et al., 2009; Tanskanen et al., 2011).

Considering that young people use the Internet as their main source of information for their daily needs, the development of Internet-based strategies for enhancing help-seeking may be beneficial and could be a starting point for early access to online services when there is awareness of the need for treatment (Ben-Davis et al., 2022; Pretorius et al., 2019). It is also important to increase the awareness of early detection and intervention of psychosis in primary healthcare professionals, who also have difficulties identifying emerging signs of psychosis, mainly when co-occurring with other psychiatric symptoms (Bay et al., 2016; Staines et al., 2022).

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Data availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

CRediT authorship contribution statement

Tecelli Domínguez: Writing – review & editing, Writing – original draft, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Conceptualization. **Daniel Pech Puebla:** Writing – review & editing, Writing – original draft, Formal analysis, Data curation. **Ana Fresán:** Writing – review & editing, Writing – original draft, Formal analysis. **Tamara Sheinbaum:** Writing – review & editing, Methodology, Data curation. **Lourdes Nieto:** Writing – review & editing. **Rebeca Robles:** Writing – review & editing. **Steven R. López:** Writing – review & editing. **Camilo de la Fuente-Sandoval:** Writing – review & editing. **Ma. Del Carmen Lara Muñoz:** Writing – review & editing. **Neus Barrantes-Vidal:** Writing – review & editing. **César Augusto Celada-Borja:** Writing – review & editing. **Mauricio Rosel-Vales:** Writing – review & editing. **Ricardo Saracco:** Writing – review & editing.

Declaration of competing interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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