Année 2018/2019 N°

Thèse

Pour le

DOCTORAT EN MEDECINE

Diplôme d'État Par

Ecaterina SANDU

Née le 12 septembre 1990 à Constanta

Étude rétrospective sur les patients hospitalisés ayant des antécédents de tentative de suicide, décédés à l'hôpital psychiatrique ou général en Indre et Loire : facteurs associés au suicide à l'hôpital

---

Présentée et soutenue publiquement le15 octobre 2019 devant un jury composé de:

Président du jury : Professeur Nicolas BALLON, Psychiatrie Adulte et Addictologie, Faculté de Médecine, Tours

Membres du jury :

Professeur Marie GRALL-BRONNEC, Service d'Addictologie et de Psychiatrie de Liaison, Université de Nantes

Docteur Bertrand MICHEL, Psychiatrie de Liaison, Praticien Hospitalier, CHR – Orléans

Docteur Hussein EL AYOUBI, Psychiatrie Adulte et Addictologie, Assistant spécialiste, CHU- Tours

Madame Céline LORIENTE-JUNG, Sociologie, Chargée de Recherche dans l'Association de Promotion des Expérimentations Sociales – Paris

Directeur de thèse : Professeur Wissam EL-HAGE, Psychiatrie Adulte, Faculté de Médecine – Tours

Résumé

Étude rétrospective sur les patients hospitalisés ayant des antécédents de tentative de suicide, décédés à l'hôpital psychiatrique ou général en Indre et Loire : facteurs associés au suicide à l'hôpital

Introduction : Le suicide dans les établissements de santé représenterait 5 à 6,5 % des suicides : 3 à 5,5 % survenant en hôpital psychiatrique et environ 2 % en hôpital général[1]. Cependant, les facteurs associés au décès par suicide dans un établissement de santé et les spécificités cliniques de ces patients sont peu explorés.

Méthode : Cette phase pilote s'inscrit dans une étude rétrospective multi-centrique d'envergure régionale. Les 60 dossiers des patients inclus sont ceux hospitalisés de janvier 2009 à décembre 2018 dans un service de Psychiatrie ou un service MCO (Médecine-Chirurgie-Obstétrique) au CHRU de TOURS et sur le CH du Chinonais, décédés pendant leur séjour d'hospitalisation (mode de sortie 9), qui avaient aussi des antécédents de tentative de suicide (code CIM-10 en X associé).

Résultats : Les patients décédés par suicide à l'hôpital souffraient de pathologies psychiatriques (78% vs. 42%, *p=0.004*) et avaient un trouble de l'usage d'Alcool (TUA) (39%, *p=0.04*). Ces patients ne bénéficiaient pas de diagnostic de pathologie invalidante (58% vs 87%, *p=0.02*), ni de mesure de protection juridique (28% vs.54%, *p=0.03*) et ils étaient autonomes (72%, *p=0.01*). Les moyens de suicide les plus fréquents étaient la pendaison et la strangulation (44%). Chez 69% des patients suicidés l'évaluation du risque suicidaire manquait, même dans les services de Psychiatrie.

Conclusion : Les services de Psychiatrie sont plus touchés par le suicide que les services MCO. Les patients les plus à risque semblent être ceux souffrant d'une pathologie psychiatrique aigue (78%) et ayant un TUA. L'absence de diagnostic de handicap et de mesure de protection indiquent que les patients qui entrent dans les soins sont plus à risque de décès par suicide à l'hôpital et nécessitent une évaluation systématique du risque suicidaire ainsi qu'une surveillance clinique plus rapprochée.

Mots clés : suicide – patient – hospitalisation - trouble psychiatrique - trouble de l'usage - évaluation du risque suicidaire.

2018/2019 N◦

Thesis submitted to the

Department of Medicine and the committee of graduate studies of

University of Tours for the degree of

Doctor of Medicine

Ecaterina SANDU

Date of birth 12 September 1990

A Retrospective study on patients with a personal history of suicide attempt that died in Psychiatric or General care facilities in Indre et Loire: associated factors with inpatient suicide

Presented in front of this thesis committee the 15 October 2019:

President of the comittee Professeur Nicolas BALLON, Psychiatrie Adulte et Addictologie, Faculté de Médecine, Tours

Members of the comittee :

Professeur Marie GRALL-BRONNEC, Service d'Addictologie et de Psychiatrie de Liaison, Université de Nantes

Doctor Bertrand MICHEL, Psychiatrie de Liaison, Praticien Hospitalier, CHR – Orléans

Doctor Hussein EL AYOUBI, Psychiatrie Adulte et Addictologie, Assistant spécialiste, CHU- Tours

Mrs Céline LORIENTE-JUNG, Sociologie, Chargée de Recherche dans l'Association de Promotion des Expérimentations Sociales – Paris

Thesis advisor: Professeur Wissam EL-HAGE, Psychiatrie Adulte, Faculté de Médecine – Tours

Abstract

A Retrospective study on patients with a personal history of suicide attempt that died in Psychiatric or General care facilities in Indre-et-Loire: associated factors with inpatients suicide

Introduction: Suicide in medical and psychiatric departments represents 5 to 6.5% of suicides: 3 to 5.5% happening in psychiatric wards and approximately 2% in general hospitals. Nevertheless, factors associated with death by suicide in hospital settings and clinical profile of these patients are little explored.

Method: This pilot phase is part of a retrospective multi-centric study of regional scale. The 60 patients included are those with a personal history of suicide attempt (associated ICD X-code) that were hospitalized from January 2009 to December 2018 in a Psychiatric or General care Hospital at the Centre Hospitalier Regional Universitaire (CHRU) de Tours and the Centre Hospitalier du Chinonais (CHC) that died during their stay (exit mode 9).

Results: Patients that died by suicide suffered from mental disorders (78% vs. 42%, *p=0.004*) and had a Substance Use Disorder (SUD) (39%, *p=0.04*). These patients were self-sustaining (72%, *p=0.01*), didn't had a diagnosis of invalidating condition (58% vs 87%, *p=0.02*), nor a tutelage or guardianship measure (28% vs.54%, *p=0.03*). Most frequently employed suicide methods were hanging and strangulation (44%). Suicidal risk assessment was missing in 69% of the patients that died by suicide, even in Psychiatric departments.

Conclusion: Psychiatric departments are more frequently concerned by suicide than General care departments. At-risk patients for death by suicide at the hospital seem to be those suffering from an acute mental disorder (78%) and having a SUD. Absence of a disability diagnosis and absence of guardianship measures show that patients entering the healthcare system have a high risk for death by suicide at the hospital, need a systematic suicide risk evaluation and a close clinical monitoring.

Keywords: suicide – inpatient – hospital - mental disorder - substance use disorder- suicide risk assessment.

UNIVERSITE DE TOURS

FACULTE DE MEDECINE DE TOURS

DOYEN

Pr Patrice DIOT

VICE-DOYEN

Pr Henri MARRET

ASSESSEURS

Pr Denis ANGOULVANT, Pédagogie

Pr Mathias BUCHLER, Relations internationales

Pr Theodora BEJAN-ANGOULVANT, Moyens – relations avec l'Université

Pr Clarisse DIBAO-DINA, Médecine générale

Pr François MAILLOT, Formation Médicale Continue

Pr Patrick VOURC'H, Recherche

RESPONSABLE ADMINISTRATIVE

Mme Fanny BOBLETER

****

DOYENS HONORAIRES

Pr Emile ARON (†) – 1962-1966

Directeur de l'Ecole de Médecine - 1947-1962

Pr Georges DESBUQUOIS (†) - 1966-1972

Pr André GOUAZE - 1972-1994

Pr Jean-Claude ROLLAND – 1994-2004

Pr Dominique PERROTIN – 2004-2014

PROFESSEURS EMERITES

Pr Daniel ALISON

Pr Philippe ARBEILLE

Pr Catherine BARTHELEMY

Pr Gilles BODY

Pr Jacques CHANDENIER

Pr Alain CHANTEPIE

Pr Pierre COSNAY

Pr Etienne DANQUECHIN-DORVAL

Pr. Dominique GOGA

Pr Alain GOUDEAU

Pr Anne-Marie LEHR-DRYLEWICZ

Pr Gérard LORETTE

Pr Roland QUENTIN

Pr Elie SALIBA

PROFESSEURS HONORAIRES

P. ANTHONIOZ – A. AUDURIER – A. AUTRET – P. BAGROS – P. BARDOS – J.L. BAULIEU – C. BERGER – JC. BESNARD – P. BEUTTER – C. BONNARD – P. BONNET – P. BOUGNOUX – P. BURDIN – L. CASTELLANI – B. CHARBONNIER – P. CHOUTET – T. CONSTANS – C. COUET – L. DE LA LANDE DE CALAN – J.P. FAUCHIER – F. FETISSOF – J. FUSCIARDI – P. GAILLARD – G. GINIES – A. GOUAZE – J.L. GUILMOT – N. HUTEN – M. JAN – J.P. LAMAGNERE – F. LAMISSE – Y. LANSON – O. LE FLOCH – Y. LEBRANCHU – E. LECA – P. LECOMTE – E. LEMARIE – G. LEROY – M. MARCHAND – C. MAURAGE – C. MERCIER – J. MOLINE – C. MORAINE – J.P. MUH – J. MURAT – H. NIVET – L. POURCELOT – P. RAYNAUD – D. RICHARD-LENOBLE – A. ROBIER – J.C. ROLLAND – D. ROYERE - A. SAINDELLE – J.J. SANTINI – D. SAUVAGE – D. SIRINELLI – B. TOUMIEUX – J. WEILL

PROFESSEURS DES UNIVERSITES - PRATICIENS HOSPITALIERS

ANDRES Christian ..... Biochimie et biologie moléculaire
ANGOULVANT Denis ..... Cardiologie
AUPART Michel ..... Chirurgie thoracique et cardiovasculaire
BABUTY Dominique ..... Cardiologie
BAKHOS David ..... Oto-rhino-laryngologie
BALLON Nicolas ..... Psychiatrie ; addictologie
BARILLOT Isabelle ..... Cancérologie ; radiothérapie
BARON Christophe ..... Immunologie
BEJAN-ANGOULVANT Théodora ..... Pharmacologie clinique
BERNARD Anne ..... Cardiologie
BERNARD Louis ..... Maladies infectieuses et maladies tropicales
BLANCHARD-LAUMONNIER Emmanuelle .... Biologie cellulaire
BLASCO Hélène ..... Biochimie et biologie moléculaire
BONNET-BRILHAULT Frédérique ..... Physiologie
BRILHAULT Jean ..... Chirurgie orthopédique et traumatologique
BRUNEREAU Laurent ..... Radiologie et imagerie médicale
BRUYERE Franck ..... Urologie
BUCHLER Matthias ..... Néphrologie
CALAIS Gilles ..... Cancérologie, radiothérapie
CAMUS Vincent ..... Psychiatrie d'adultes
COLOMBAT Philippe ..... Hématologie, transfusion
CORCIA Philippe ..... Neurologie
COTTIER Jean-Philippe ..... Radiologie et imagerie médicale
DE TOFFOL Bertrand ..... Neurologie
DEQUIN Pierre-François..... Thérapeutique
DESOUBEAUX Guillaume..... Parasitologie et mycologie
DESTRIEUX Christophe ..... Anatomie
DIOT Patrice ..... Pneumologie
DU BOUEXIC de PINIEUX Gonzague ..... Anatomie & cytologie pathologiques
DUCLUZEAU Pierre-Henri ..... Endocrinologie, diabétologie, et nutrition
DUMONT Pascal ..... Chirurgie thoracique et cardiovasculaire
EL HAGE Wissam ..... Psychiatrie adultes
EHRMANN Stephan ..... Réanimation
FAUCHIER Laurent ..... Cardiologie
FAVARD Luc ..... Chirurgie orthopédique et traumatologique
FOUGERE Bertrand ..... Gériatrie
FOUQUET Bernard ..... Médecine physique et de réadaptation
FRANCOIS Patrick ..... Neurochirurgie
FROMONT-HANKARD Gaëlle ..... Anatomie & cytologie pathologiques
GAUDY-GRAFFIN Catherine ..... Bactériologie-virologie, hygiène hospitalière
GOUPILLE Philippe ..... Rhumatologie
GRUEL Yves ..... Hématologie, transfusion
GUERIF Fabrice ..... Biologie et médecine du développement et de la reproduction
GUYETANT Serge ..... Anatomie et cytologie pathologiques
GYAN Emmanuel ..... Hématologie, transfusion
HAILLOT Olivier ..... Urologie
HALIMI Jean-Michel ..... Thérapeutique
HANKARD Régis..... Pédiatrie
HERAULT Olivier ..... Hématologie, transfusion
HERBRETEAU Denis ..... Radiologie et imagerie médicale
HOURIOUX Christophe ..... Biologie cellulaire
LABARTHE François ..... Pédiatrie
LAFFON Marc ..... Anesthésiologie et réanimation chirurgicale, médecine d'urgence
LARDY Hubert ..... Chirurgie infantile
LARIBI Saïd ..... Médecine d'urgence
LARTIGUE Marie-Frédérique ..... Bactériologie-virologie
LAURE Boris ..... Chirurgie maxillo-faciale et stomatologie
LECOMTE Thierry ..... Gastroentérologie, hépatologie
LESCANNE Emmanuel ..... Oto-rhino-laryngologie
LINASSIER Claude ..... Cancérologie, radiothérapie
MACHET Laurent ..... Dermato-vénéréologie
MAILLOT François ..... Médecine interne

MARCHAND-ADAM Sylvain ..... Pneumologie
MARRET Henri ..... Gynécologie-obstétrique
MARUANI Annabel ..... Dermatologie-vénéréologie
MEREGHETTI Laurent ..... Bactériologie-virologie ; hygiène hospitalière
MITANCHEZ Delphine ..... Pédiatrie
MORINIERE Sylvain ..... Oto-rhino-laryngologie
MOUSSATA Driffa ..... Gastro-entérologie
MULLEMAN Denis ..... Rhumatologie
ODENT Thierry ..... Chirurgie infantile
OUAISSI Mehdi ..... Chirurgie digestive
OULDAMER Lobna ..... Gynécologie-obstétrique
PAINTAUD Gilles ..... Pharmacologie fondamentale, pharmacologie clinique
PATAT Frédéric ..... Biophysique et médecine nucléaire
PERROTIN Dominique ..... Réanimation médicale, médecine d'urgence
PERROTIN Franck ..... Gynécologie-obstétrique
PISELLA Pierre-Jean ..... Ophtalmologie
PLANTIER Laurent ..... Physiologie
REMERAND Francis ..... Anesthésiologie et réanimation, médecine d'urgence
ROINGEARD Philippe ..... Biologie cellulaire
ROSSET Philippe ..... Chirurgie orthopédique et traumatologique
RUSCH Emmanuel ..... Epidémiologie, économie de la santé et prévention
SAINT-MARTIN Pauline ..... Médecine légale et droit de la santé
SALAME Ephrem ..... Chirurgie digestive
SAMIMI Mahtab ..... Dermatologie-vénéréologie
SANTIAGO-RIBEIRO Maria ..... Biophysique et médecine nucléaire
THOMAS-CASTELNAU Pierre ..... Pédiatrie
TOUTAIN Annick ..... Génétique
VAILLANT Loïc ..... Dermato-vénéréologie
VELUT Stéphane ..... Anatomie
VOURC'H Patrick ..... Biochimie et biologie moléculaire
WATIER Hervé ..... Immunologie

PROFESSEUR DES UNIVERSITES DE MEDECINE GENERALE

DIBAO-DINA Clarisse
LEBEAU Jean-Pierre

PROFESSEURS ASSOCIES

MALLET Donatien ..... Soins palliatifs
POTIER Alain ..... Médecine Générale
ROBERT Jean ..... Médecine Générale

MAITRES DE CONFERENCES DES UNIVERSITES - PRATICIENS HOSPITALIERS

BARBIER Louise..... Chirurgie digestive
BERHOUET Julien ..... Chirurgie orthopédique et traumatologique
BRUNAULT Paul ..... Psychiatrie d'adultes, addictologie
CAILLE Agnès ..... Biostat., informatique médical et technologies de communication
CLEMENTY Nicolas ..... Cardiologie
DENIS Frédéric ..... Odontologie
DOMELIER Anne-Sophie ..... Bactériologie-virologie, hygiène hospitalière
DUFOUR Diane ..... Biophysique et médecine nucléaire
ELKRIEF Laure ..... Hépatologie – gastroentérologie
FAVRAIS Géraldine ..... Pédiatrie
FOUQUET-BERGEMER Anne-Marie ..... Anatomie et cytologie pathologiques
GATAULT Philippe ..... Néphrologie
GOUILLEUX Valérie..... Immunologie
GUILLON Antoine ..... Réanimation
GUILLON-GRAMMATICO Leslie ..... Epidémiologie, économie de la santé et prévention
HOARAU Cyrille ..... Immunologie
IVANES Fabrice ..... Physiologie
LE GUELLEC Chantal ..... Pharmacologie fondamentale, pharmacologie clinique
LEFORT Bruno ..... Pédiatrie
LEMAIGNEN Adrien ..... Maladies infectieuses
MACHET Marie-Christine ..... Anatomie et cytologie pathologiques

MOREL Baptiste ..... Radiologie pédiatrique
PIVER Éric ..... Biochimie et biologie moléculaire
REROLLE Camille ..... Médecine légale
ROUMY Jérôme ..... Biophysique et médecine nucléaire
SAUTENET Bénédicte ..... Thérapeutique
TERNANT David ..... Pharmacologie fondamentale, pharmacologie clinique
VUILLAUME-WINTER Marie-Laure ..... Génétique
ZEMMOURA Ilyess ..... Neurochirurgie

MAITRES DE CONFERENCES DES UNIVERSITES

AGUILLON-HERNANDEZ Nadia ..... Neurosciences
BOREL Stéphanie ..... Orthophonie
MONJAUZE Cécile ..... Sciences du langage – orthophonie
NICOGLOU Antonine ..... Philosophie – histoire des sciences et des techniques
PATIENT Romuald..... Biologie cellulaire
RENOUX-JACQUET Cécile ..... Médecine Générale

MAITRES DE CONFERENCES ASSOCIES

RUIZ Christophe ..... Médecine Générale
SAMKO Boris ..... Médecine Générale

CHERCHEURS INSERM - CNRS - INRA

BOUAKAZ Ayache ..... Directeur de Recherche INSERM – UMR INSERM 1253
CHALON Sylvie ..... Directeur de Recherche INSERM – UMR INSERM 1253
COURTY Yves ..... Chargé de Recherche CNRS – UMR INSERM 1100
DE ROCQUIGNY Hugues ..... Chargé de Recherche INSERM – UMR INSERM 1259
ESCOFFRE Jean-Michel ..... Chargé de Recherche INSERM – UMR INSERM 1253
GILOT Philippe ..... Chargé de Recherche INRA – UMR INRA 1282
GOUILLEUX Fabrice ..... Directeur de Recherche CNRS – UMR CNRS 7001
GOMOT Marie ..... Chargée de Recherche INSERM – UMR INSERM 1253
HEUZE-VOURCH Nathalie ..... Chargée de Recherche INSERM – UMR INSERM 1100
KORKMAZ Brice ..... Chargé de Recherche INSERM – UMR INSERM 1100
LAUMONNIER Frédéric ..... Chargé de Recherche INSERM - UMR INSERM 1253
MAZURIER Frédéric ..... Directeur de Recherche INSERM – UMR CNRS 7001
MEUNIER Jean-Christophe ..... Chargé de Recherche INSERM – UMR INSERM 1259
PAGET Christophe ..... Chargé de Recherche INSERM – UMR INSERM 1100
RAOUL William ..... Chargé de Recherche INSERM – UMR CNRS 7001
SI TAHAR Mustapha ..... Directeur de Recherche INSERM – UMR INSERM 1100
WARDAK Claire ..... Chargée de Recherche INSERM – UMR INSERM 1253

CHARGES D'ENSEIGNEMENT

Pour l'Ecole d'Orthophonie
DELORE Claire ..... Orthophoniste
GOUIN Jean-Marie ..... Praticien Hospitalier
Pour l'Ecole d'Orthoptie
MAJZOUB Samuel..... Praticien Hospitalier
Pour l'Ethique Médicale
BIRMELE Béatrice ..... Praticien Hospitalier

SERMENT D'HIPPOCRATE

En présence des Maîtres de cette Faculté,
de mes chers condisciples
et selon la tradition d'Hippocrate,
je promets et je jure d'être fidèle aux lois de l'honneur
et de la probité dans l'exercice de la Médecine.

Je donnerai mes soins gratuits à l'indigent,
et n'exigerai jamais un salaire au-dessus de mon travail.
Admis dans l'intérieur des maisons, mes yeux
ne verront pas ce qui s'y passe, ma langue taira
les secrets qui me seront confiés et mon état ne servira pas
à corrompre les mœurs ni à favoriser le crime.

Respectueux et reconnaissant envers mes Maîtres,
je rendrai à leurs enfants
l'instruction que j'ai reçue de leurs pères.

Que les hommes m'accordent leur estime
si je suis fidèle à mes promesses.
Que je sois couvert d'opprobre
et méprisé de mes confrères
si j'y manque.

REMERCIEMENTS

À mon Président du jury, Monsieur le Professeur Nicolas BALLON

Vous me faites l'honneur de présider ce jury et de juger mon travail. Merci pour votre gentillesse et votre disponibilité, ainsi que pour le temps et l'attention que vous donnez aux parcours et à la formation de l'ensemble des internes. Je vous témoigne ma profonde et respectueuse reconnaissance.

À mon directeur de thèse, Monsieur le Professeur Wissam EL HAGE

Je vous remercie pour votre accompagnent, vos connaissances et votre appui scientifique. Travailler avec vous est une expérience toujours enrichissante et j'espère pouvoir finaliser tous les projets débutés auparavant sous votre coordination. Veuillez recevoir ma sincère et chaleureuse gratitude.

À Madame la Professeure Marie GRALL-BRONNEC

Vous me faites l'honneur d'accepter de faire partie de mon jury et d'apporter votre expérience à la critique de ce travail en siégeant dans mon jury de thèse. Vos connaissances et votre expertise dans la sphère de la Psychiatrie et de l'Addictologie apporteront un éclairage dans la lecture de ce travail de thèse. Je vous prie de bien vouloir accepter ici l'expression de ma respectueuse considération.

À Monsieur le Docteur Hussein EL AYOUBI

Je tiens à remercier mon co-encadrant de thèse, Dr Hussein EL AYOUBI, pour sa disponibilité permanente, son enthousiasme dans la recherche et ses conseils toujours avisés tout au long de ce travail. Sa motivation et ses lectures méticuleuses m'ont aidé à achever ce travail. Trouve ici l'expression de mes remerciements les plus sincères.

À Monsieur le Docteur Bertrand MICHEL

Je tiens à vous remercier pour votre soutien et votre encadrement pendant mon premier semestre d'internat qui m'a permis de commencer mon parcours professionnel avec beaucoup d'enthousiasme et un regard critique et toujours renouvelé de la Psychiatrie. Veuillez croire en l'expression de ma respectueuse considération.

À Madame Céline LORIENTE-JUNG

Je tiens à te remercier de ta présence dans mon jury et d'accepter de juger ce travail. Tes connaissances et ta perspective issue des sciences sociales enrichit les échanges et j'espère pouvoir réitérer notre collaboration prochainement. Trouve ici l'expression de mes sincères remerciements.

À tous les psychiatres et maîtres de stages qui m'ont guidé les pas pendant l'internat, leur patience et leurs conseils et en particulier au Docteur Abderrazak NASRY, au Docteur Marion BAUDRY, aux Docteurs Marc-Emmanuel RAYMOND et Julie FRAMMERY.

À ma psychiatre préférée et amie, le Docteur Joelle PALMA pour son accompagnement pendant mon internat, sa joie de vivre et son amitié.

À ma sœur, Ana-Maria, pour son soutien infatigable et son pétillant humour, pour tous les souvenirs qu'on a créés ensemble. La distance qui nous sépare ne change rien à notre lien toujours aussi fort !

À mes parents, Tasia et Mihaita, ces remerciements ne seraient jamais achevés sans une pensée pour eux. Leur présence, leur soutien inconditionnel et leurs encouragements sont pour moi les piliers fondateurs de ce que je suis et de ce que je suis devenue.

À mon ami, Julien, merci pour son humour infatigable et son aide inconditionnelle. Je suis chanceuse d'avoir trouvé en lui l'ami, l'interlocuteur des débat intellectuels et l'aventurier passionné de voyage. Merci pour son soutien permanent ! Merci à ses parents, Beatrice et Éric, pour leur soutien et leur gentillesse.

A mon amie et ancienne colocataire, Marie, merci d'avoir cultivé en moi l'esprit de bienveillance, merci pour son soutien, son empathie et ses conseils ! J'ai trouvé un toi une amie pour toujours.

À mes amis de faculté, Stela et Romulus, pour leur amitié, leur soutien et leur confiance. Je suis très contente que vous soyez venus de loin pour me soutenir. Tous nos souvenirs ensemble sont très précieux pour moi.

A Valentine, pour son humour, son enthousiasme et son amitié. Les congrès et les soirées passées ensemble restent inoubliables.

À ma grand-mère, pour son soutien, son énergie et son amour ! A mon grand-père auquel je pense tous les jours !

À mon oncle, ma tante et ma cousine, pour leur soutien et leur confiance. Je suis tellement contente que vous soyez là aujourd'hui !

À tous ceux qui ne sont pas mentionnés et qui devraient l'être !

Mulțumesc !

SUMMARY

LIST OF ABREAVIATIONS

APEX: Association de Promotion des Expérimentations Sociales

AUD : Alcohol Use Disorder

CER-TP : Centre D'Éthique pour les Recherches impliquant la personne humaine des Universités de Tours et Poitiers

CIM-10 : 10^{e} révision de la Classification internationale statistique des maladies et des problèmes de santé connexes

CHC : Centre Hospitalier du Chinonais

CHRU : Centre Hospitalier Régional Universitaire

CI : Correspondant Informatique et Libertés

ICD-10: 10th revision of the International Statistical Classification of Diseases and Related Health Problems

MCO : Service de Médecine Chirurgie et Obstétrique

SUD : Substance Use Disorder

UREH : Unité Régionale d'épidémiologie Hospitalière en Région Centre

I. INTRODUCTION

Suicide is a major public health issue with up to 800 000 deaths every year and the second leading cause of death among 15-29-year-olds. A prior suicide attempt is the single most important risk factor for suicide in the general population. Ingestion of pesticide and hanging are among the most common methods of suicide globally (1,2). The main completed suicide risk factors are male and advanced age especially in men.

An essential risk factor for death by suicide is represented by psychiatric disorders, especially mood disorders, schizophrenia, anxiety disorders and substance use disorders (3, 4). The 2016 report on suicide indicates hospitalization for psychiatric inpatients, as a suicide risk factor, sign of a severe psychiatric disorder. For inpatients hospitalized for suicide attempt, mood disorders involve a high suicidal risk and an extreme risk the week following discharge from hospital. This pattern is also valid for inpatients suffering from schizophrenia (4). As to substance use disorders, the suicidal risk is highly increased in substance use disorders, particularly in alcohol use disorders (5,6) and seems to be stable over time (4). Scientific literature shows hanging as suicide methods most frequently employed by inpatients (7,8) with the most common ligature fixation points being a door, door handle, or door hinge (8) but also drowning (9) and jumping from a high place (10).

The sociology team APEX[1] conducted a literature review on the subject of suicide and disability (11). This research concerned several branches of this topic. One of them was suicide in psychiatric and medical care facilities. The data relating to suicide during hospitalization is rare and concerns most often the psychiatric hospitals, medical researchers involved in suicide and suicidology being frequently psychiatrists (12).

Although little explored (12) the epidemiological data on suicide in psychiatric and medical settings is relatively homogenous (13,14) and shows that suicide in inpatients reaches up to 5% of suicides, most frequently in psychiatric departments (between 3 and 5.5%) compared to general hospitals (approximately 2%). Moreover, according to several studies, 15 to 60 % of the inpatient population was initially hospitalized due to a high suicidal risk (13). These findings are at the origin of our questioning on the eventual profile of these patients and

[1] *Association de Promotion des Expérimentations Sociales*

motivated the launching of our exploratory study in order to understand the phenomenon in the department Indre-et-Loire.

This study's primary objective is to describe the factors associated with death by suicide in an inpatient population with a personal history of suicide attempt. Secondary aim is to draw an accurate profile of at-risk patients for death by suicide in medical and psychiatric care units. Our main hypothesis is that psychiatric disorders are a major suicide risk, particularly mood disorders and schizophrenia, and that first steps in the medical care systems are highly at risk of death by suicide. Another hypothesis is that substance use disorders are positively correlated to death by suicide in hospital facilities. Last hypothesis is that hanging may be the main suicide method given the context of hospitalization where access to cords, belts and wires seems to be much easier than medication that tends to be restrained.

As suicide in hospital settings is a largely unknown issue that affects psychiatry departments but also general hospital departments, we conducted this pilot and exploratory study to help us describe the factors associated with death by suicide in an inpatient population with a history of suicide attempt and better describe the clinical profile of inpatients that die by suicide in psychiatric and general departments.

II. METHODS

This is a retrospective, multicentric, pilot and exploratory study conducted in department Indre-et-Loire. The lack of scientific data justified an extensive data gathering, going from medical history to personal history of psychiatric disorders and history of substance use.

2.1. Population and procedure

Study population is represented by patients with a personal history of suicide attempt that died during hospital stay in a psychiatry unit or a general medicine unit, with a special attention accorded to patients that died by suicide during hospitalization. Recruited patients were those who died during hospitalization and whose stays were associated to an ICD-10 code for suicide attempt. The facilities concerned were general hospitals, psychiatric hospitals and rehabilitation and recuperative care facilities. The second step was to check the patient files to validate the data and proceed to the inclusion.

We retrospectively consulted all medical files of patients having a personal history of suicide attempt and that died during their inpatient stay in a general or a psychiatric hospital from 2009 until 2018. Were considered as inpatients all hospitalized patients in a general care unit, psychiatry ward but also patients out on hospital leaves and patients that have left the hospital for less than 48 hours. We excluded inpatient's medical file if death at hospital resulted from a suicide attempt at home, in a public area or if death was due to an accident. We also excluded medical files if there was missing data on the circumstances of death, meaning absence of information concerning an eventual suicide or accident.

2.2. Measures

a. Social and demographic data

We collected data on demographics (age, sex, marital status, children, current employment and retirement, educational degree) but also on daily living context (presence or absence of an active social circle, disability allowance, guardianship or tutelage measures, independence in their homes).

b. Personal history of psychiatric disorders

In this category will be indicated the personal and family history of mental disorders, which refer to conditions that affect cognition, emotion, behavior and social interactions.

The 2011 World Report on disability (15) defines disability as an umbrella term for impairments, activity limitations and participation restrictions, referring to the negative aspects of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors) (16). We used disability defined as a pathological state of physical, psychological or cognitive nature lasting at least 3 months (17), chronic illness being defined as longer than 1 year (18).

c. Ongoing psychiatric disorder

We recorded as ongoing disorder a condition that is not acute but still in course of evolution, having an impact on the patient everyday life and needing more specific care than a chronical stabilized condition.

d. Acute episodes of a psychiatric disorder

They are severe and sudden in onset. The history of acute episodes within the evolution of mental disorders are considered as leading to recovery or towards chronicity.

e. Personal history of substance use disorder

Personal history of substance use will include tobacco use, alcohol use, cannabis and opioids use. Family history of addiction will also be collected.

f. Type of care prior to suicide

The long-term hospitalizations, hospitalizations in the current year and in the month prior to suicide were collected. We also searched for recent psychiatric consultations in the public mental care facilities, issued within the last three months before the completed suicide.

g. Describing the completed suicide

The completed suicides were described by the presence of suicidal ideation, the suicide methods and place of completed suicide. We recorded personal and family history of suicidal behavior and described history of suicide attempts by number and suicide methods. The cases of suicidal behavior defined as suicidal equivalent were described. We considered as suicidal equivalent a refusal of food intake, care and treatment and behavior of voluntary risk taking as voluntary falls and opioid overdoses.

2.3. Launching of the research project

A research study was conducted and the feasibility of this study was evaluated before launching the project in cooperation with the UREH staff (Unité Régionale d'épidémiologie Hospitalière en Région Centre). The project was validated by an independent ethical committee (CER-TP, CER-2018-11-02). A declaration has been made to the French data protection authority (CIL) under the number 5413290819.

2.4. Statistics

All data was generated for all variables and statistical analysis *was performed* using SPSS software, version 22.0.0 and R software (R foundation for Statistical computing, 2012) and was tested with a two-sided significance level of .05.

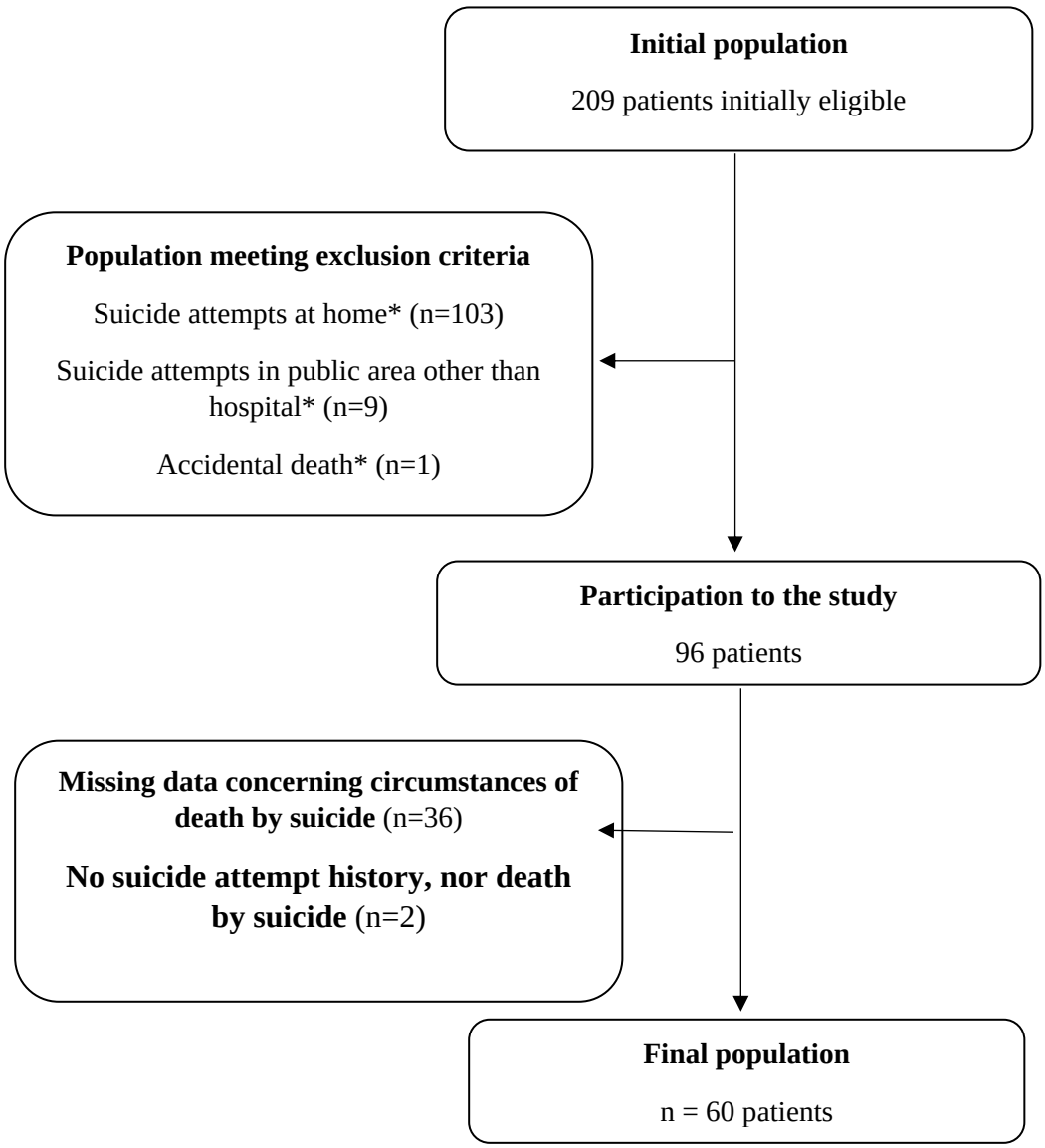
Descriptive statistics for quantitative measures (mean, standard deviation) and for qualitative measures (percentage) were first calculated. We used chi-squared to determine the association between inpatient's suicide and qualitative variables (sociodemographic, substance use, current and lifetime psychiatric and medical disorders, duration of hospitalization, recent consultation in psychiatry); we used Fisher exact test when appropriate. Parametric and non-parametric mean comparison tests (student's mean comparison tests or Mann-Whitney U test, depending on the normality of the variables) were also used to determine what continuous variables were associated with inpatient suicide.

III. RESULTS

3.1. Patients selection

As shown by the study flow chart in Figure 2.1, the initial population was represented by 209 patients. The excluded patients were those that committed suicide at home and died at the hospital (n=103 patients), those that committed suicide in public places other than the hospital as school or work (n=9) and one accidental death. Other 36 patients were excluded due to the lack of data concerning death circumstances. The final sample study is represented by 60 patients.

Figure 2.1. Study flow chart



*Note: *patients declared deceased in hospital; n* = number of patients

3.2. Descriptive Social and Demographic data

Table 3.1 shows that mean age of the study sample was 53.5 years old and 31 (51.7%) patients were male. Fifteen (25%) were in a relationship and 24 (40%) had children. On disability recognition, 24 patients (40%) were in receipt of the disabled adult allowance and 23 (38.3%) were under guardianship or tutelage measure.

Table 3.1 Descriptive statistics of social and demographic data of the study sample (n=60). Data is presented as mean ± standard deviation (SD) or number (percentage).

	Study sample (n=60)
Sociodemographics	
Age, years	53.4 ± 18.0
Sex, male	31 (51.7%)
In relationship	15 (25.0%)
With children	24 (40%)
Active social circle	49 (81.7%)
Current or former employment	19 (31.7%)
Disabled adult allowance	24 (40.0%)
University entry level	24 (40.0%)
Independent in his/her own home	24 (40.0%)
Hospitalization-related characteristics	
Long-term hospitalization in a Psychiatric unit	18 (30.0%)
Hospitalization in Psychiatric unit in the last month	23 (43.3%)
Recent consultation in a Psychiatric emergency unit	22 (36.7%)
Suicide attempt related hospitalization in General Medicine	11 (18.3%)
Hospitalization in a Psychiatric unit	54 (90%)
Psychotic episode	14 (23.3%)
Depressive episode	13 (21.7%)
Bipolar disorder	11 (18.3%)
Suicidal ideation and suicide attempts	12 (20.0%)
Type of admission in a Psychiatric unit	
Voluntary admission in a Psychiatric unit	43 (71.7%)
Involuntary admission in a Psychiatric unit	11 (18.3%)

As to hospitalization-related characteristics, 18 patients (30%) were in a long-term hospitalization in a psychiatric ward. Twenty-three patients (43.3%) were hospitalized in a psychiatric ward in the last month and 22 (36.7%) have had a consultation in a psychiatric emergency unit in the past 3 months.

Fifty-four (90%) out the 60 patients were hospitalized in a Psychiatry unit. The main admission reasons were a psychotic episode (14, 23.3%), a depressive episode (13, 21.7%) and a depressive or mixed episode in the context of a bipolar disorder (11, 18.3%).

Table 3.2 Descriptive statistics of the medical history data of the study sample (n=60). Data is presented as mean ± standard deviation (SD) or mean (percentage-.

	Study sample (n=60)
Medical History	
Number of morbidities	3.0 ± 2.4
Medical history (at least 1 ongoing or in remission pathology)	52 (86.7%)
Acute illness at the moment of suicide	21 (35.0%)
Disability (mental and/or physical)	42 (70.0%)
Death-related characteristics	
Non-suicide related cause of death	24 (40.0%)
Suicide-related or suicidal behavior cause of death	36 (60.0%)
Suicide-related characteristics	
Suicide committed in a Psychiatric unit	27 (45.0%)
Suicide committed in General Hospital	9 (15.0%)
Suicidal equivalent behavior concluding in death in a Psychiatric Unit	2 (3.3%)
Suicidal equivalent behavior concluding in death in General Hospital	4 (6.7%)

On the subject of death-related characteristics, on the final sample of 60 patients: 36 (60%) had died by suicide or suicide equivalent at the hospital, and 24 (40%) died due to a non-suicide-related cause. In a matter of suicide-related characteristics, 27 (45%) had committed suicide in a psychiatric unit and nine (15%) in a general care unit.

Six patients (10%) had a suicidal equivalent behavior leading to death. All were hospitalized in a psychiatry unit. The mean age was 66 years old (4 women and 2 men). Three were suffering from a bipolar disorder, two were suffering from schizophrenia and one from a late-onset psychotic disorder.

Nine patients died by suicide in a general care unit. The average age was 61.7 years old (4 women, 4 men). Four suffered from an alcohol use disorder and two had a tobacco use disorder. Also, the latter two reports suffered from a pulmonary cancer with metastasis. Three of the patients were experiencing a depressive episode and one was diagnosed with a histrionic personality disorder.

Table 3.3. Descriptive statistics of psychiatric history of the study sample (n=60). Data is presented as mean ± standard deviation (SD) or number (percentage).

	Study sample (n=60)
Psychiatric history	
Current psychiatric disorder	54 (90.0%)
Acute psychiatric disorder	38 (63.3%)
Chronic psychiatric disorder	43 (71.7%)
Schizophrenia	15 (25.0%)
Depressive episode	14 (23.3%)
Bipolar disorder	12 (20.0%)
Autistic spectrum disorder, neurodevelopmental disorder	6 (10.0%)
Anxiety disorder, obsessive compulsive disorder	3 (5.0%)
Post-traumatic stress disorder	1 (1.7%)
Personality disorder	4 (6.7%)
Other psychotic disorders (late onset, pharmacopsychosis)	5 (8.3%)
History of Substance Use Disorder	
Personal history of substance use disorder	24 (40.0%)
Family history of substance use disorder	1 (1.7%)
Mental disorder due to psychoactive substance use in the past 12 months	13 (21.7%)
Alcohol abuse	17 (28.3%)
Tobacco abuse	22 (36.7%)

About history of substance use disorder (SUD) we find twenty-four patients (40.0%) with a personal history of SUD. Tobacco was found to be the most frequently used substance with 22 patients i.e. 36.7%. The second substance most frequently used was alcohol and concerned 17 patients (28.3%).

3.3.Analysis and comparison of collected data connected to death versus death by suicide

The essential differentiating element of our comparison was the cause of death: related or non-related to a suicide attempt. The two groups were comparable with regard to sex with 12 (50%) and 19 (53%) male patients in the non-suicide related versus suicide-related death groups.

On disability Table 3.4 shows a significant difference *(p = 0.02)* between the two groups: 21 patients had a disability (87%) in the non-suicide related group while in the suicide related group 21 patients suffered from disability (58%). In the non-suicide related death group, 13 patients (54%) were in receipt of a guardianship or a tutelage measure and 10 patients (28%) had a guardianship in the death by suicide group *(p=0.03)*.

Table 3.4 Comparison of social and demographic data, medical and substance use history connected to death and death by suicide presented as mean ± standard deviation (SD) or number (percentage).

	Non suicide related death N=24	Death by suicide N=36	Test	P
Social and demographic data				
Sex, male	12 (50%)	19 (53%)	χ^2=.44	*.83*
In Relationship	5 (21%)	10 (28%)	χ^2=.37	*.54*
With children	8 (33%)	16 (66%)	χ^2=.74	*.38*
Active social circle	19 (79%)	30 (83%)	χ^2=.16	*.68*
Current or former employment	6 (25%)	13 (36%)	χ^2=.82	*.36*
Disabled adult allowance	13 (54%)	11 (31%)	χ^2=3.74	*.15*
Guardianship or tutelage measure	13 (54%)	10 (28%)	χ^2=4.24	*.03**
Independent in his/her own home	10 (42%)	26 (72%)	χ^2=5.60	*.01**
Disability (mental and/ or physical)	21 (87%)	21 (58%)	χ^2=5.8	*.02**

*We have compared average chi-squared tests for quantity variables. When n < 5, we have used Fisher exact test. * means presence of a significant statistical difference (p<.05)*

As seen in Table 3.4, 26 out of 36 patients (72%) in the suicide related death group were independent in their homes while in the other group 42% (10 out of 24 patients) were autonomous in their household (*p value of 0.01).*

Table 3.5 illustrates that acute psychiatric disorder affected 86% of the patients (31 out of 36) in the suicide related death group versus 42 % patients (10 out of 24) in the non-suicide related group (p=0.004). Chronic psychiatric disorder was more frequent in the non-suicide related death group with 88% of the patients versus only 61% in the other group (p=0.04).

Table 3.5 Comparison of psychiatric and substance use history presented as mean ± standard deviation (SD) or number (percentage).

	Non suicide related death N=24	Death by suicide N=36	Test	P
Psychiatric History				
Current psychiatric disorder	23 (96%)	31 (86%)	χ^2=1.51	*.38*
Acute psychiatric disorder	10 (42%)	28 (78%)	χ^2=8.08	*.004**
Chronic psychiatric disorder	21 (88%)	22 (61%)	χ^2=4.93	*.04**
History of Substance Use Disorder				
Personal history of SUD	8 (33%)	16 (44%)	χ^2=74	*.38*
Mental disorder due to psychoactive substance use in the past 12 months	2 (8%)	11 (31%)	χ^2=4.19	*.05*
Alcohol Use Disorder	3 (13%)	14 (39%)	χ^2=4.93	*.04**
Tobacco Use Disorder	9 (38%)	13 (36%)	χ^2=.012	*.91*
Cannabis Use Disorder	1 (4%)	4 (11%)	χ^2=.90	*.63*
Opioids Use Disorder	1 (4%)	2 (6%)	χ^2=.05	*1.00*

*We have compared average chi-squared tests for quantity variables. When n<5, we have used Fisher exact test. * means presence of a significant statistical difference (p<.05)*

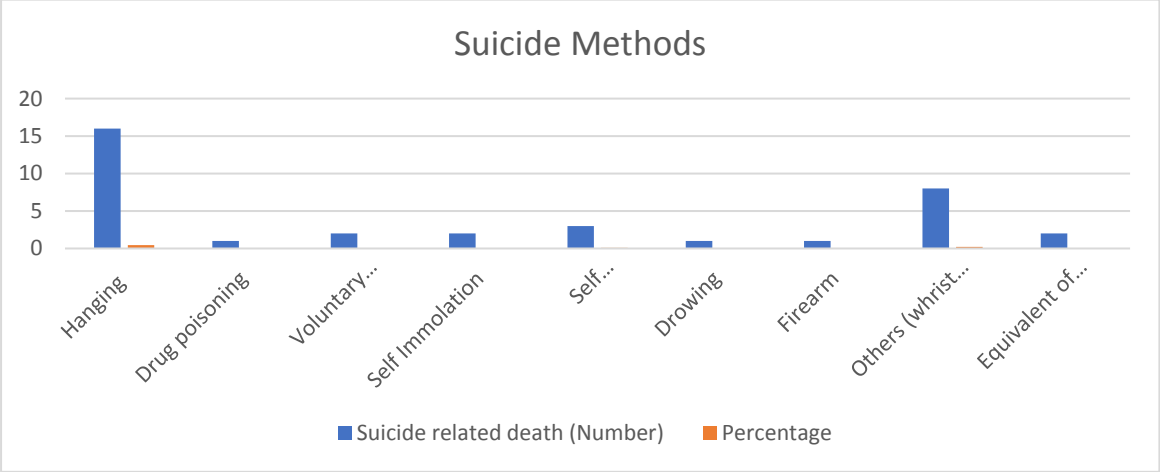
Table 3.5 shows that in the suicide related group there were 14 patients (39%) suffering from an alcohol use disorder (AUD) versus three patients (13%) in the non-suicide related group (p=0.04). In table 3.6 we see that 83% of the patients that died by suicide were not hospitalized for a long-term stay (less than 6 months) versus 50% on the non-suicide related death group (*p=0.006*). In the suicide related group, the most frequent reason of hospitalization was depressive episode with a 28% (10 out of 36 patients), followed by depressive episode or mixed state in the context of bipolar disorder and psychotic episode with 6 patients out of 36 (17%).

Table 3.6 Comparison of hospitalization connected variables presented as mean ± standard deviation (SD) or number (percentage)

	Non suicide related death N=24	**Death by suicide N=36**	**Test**	**P**
Hospitalization-related characteristics				
Suicide attempt related hospitalization in General Medicine	1 (4%)	12 (33%)	χ^2=7.21	*.009**
Psychotic Episode	8 (33%)	6 (17%)	χ^2=2.23	*.13*
Depressive Episode	3 (13%)	10 (28%)	χ^2=1.98	*.21*
Bipolar Disorder	5 (21%)	6 (17%)	χ^2=.16	*.68*
Autistic Spectrum Disorder	5 (21%)	1 (3%)	χ^2=5.2	*.03**
Anxiety Disorder	1 (4%)	2 (6%)	χ^2=.05	*1.00*
Other Psychotic Disorder	3 (13%)	1 (3%)	χ^2=.98	*.29*
Behavioral Disturbances	6 (25%)	3 (8%)	χ^2=3.13	*.13*
Involuntary admission in a Psychiatric unit	2 (8%)	9 (25%)	χ^2=2.67	*.17*
No long-term hospitalization in a Psychiatric unit[1]	12 (50%)	30 (83%)	χ^2=7.61	*.006**
No hospitalization in a Psychiatry unit in the last year	14 (58%)	24 (67%)	χ^2=.43	*.51*
Hospitalization in a Psychiatry unit in the past month	9 (38%)	17 (47%)	χ^2=.55	*.45*
Recent admission in a Psychiatric emergency unit	8 (33%)	14 (39%)	χ^2=.19	*.66*

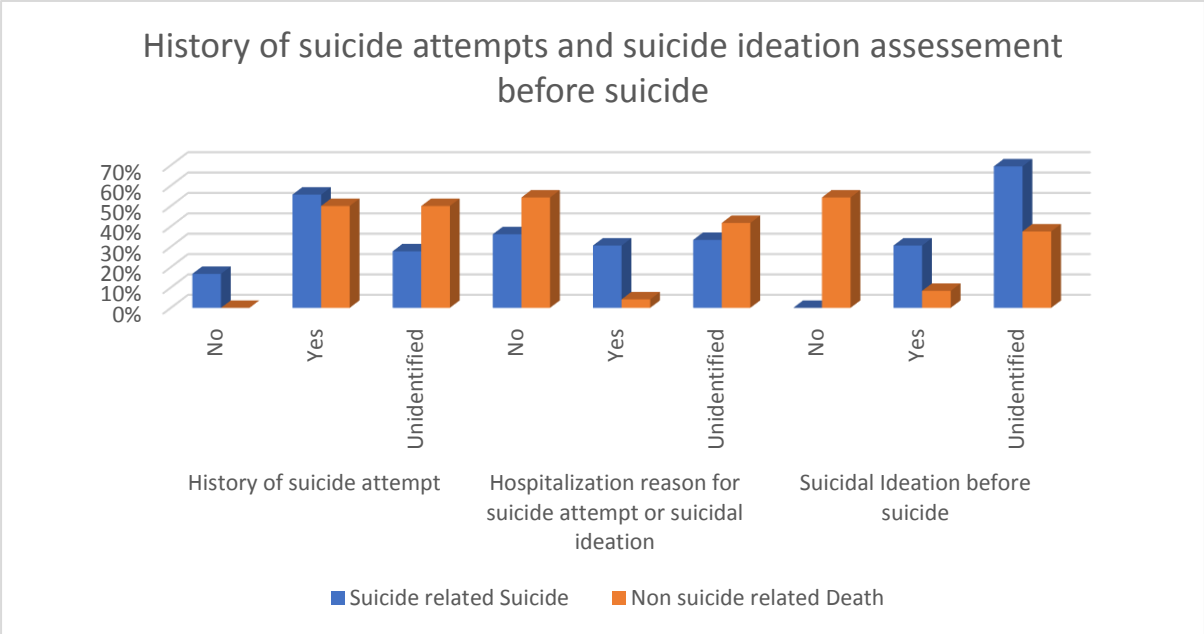
*We have compared average chi-squared tests for quantity variables. When n < 5, we have used Fisher exact test. * means presence of a significant statistical difference (p<.05)*

The most frequent suicide methods were hanging and strangulation with a 44% (16 out of 36 patients) followed by other methods that included wrist cutting and asphyxiation (22%) and closely followed by self-defenestration with three patients out of 36 (8%).



Graphic 3.1. Suicide methods in suicide related death group

In the second graphic we can observe that history of suicide attempts and suicide ideation is marked by the presence of unidentified information.



Graphic 3.2. History of suicide attempt and suicide ideation assessment before suicide. Unidentified presence of suicidal ideation in 69% i.e. 25 out of 36 among patients that died by suicide at the hospital.

IV. DISCUSSION

This study shows that patients that commit suicide at the hospital: are slightly younger, self-sustaining, without a disabled adult allowance and without any guardianship or tutelage measure. The comparison of the two groups reveals an interesting aspect about disability. In the suicide related death group, disability seems to be less frequent than in the non-suicide related death group. Furthermore, the recognition of disability is also lesser in the suicide related death group. A possible explanation for this might be that death by suicide at the hospital is more common for inpatients that have not received global and adapted care to their condition. All these findings seem to indicate that entering healthcare system is associated with higher suicidal risk as prior research indicates (2,19,20).

A consensus is established saying that psychiatric disorders are one of the main suicidal risk factors (21–23). The distribution of acute versus chronic diseases in the two groups puts more emphasis on this aspect. In the group of patients that died by suicide 28 patients (78%) were suffering of an acute psychiatric disorder versus 10 (42%) on the non-suicide related group. Nevertheless, we must remember that both our groups are characterized by a personal history of suicide attempt and mental disorders are more frequent in this population (24). As expected, we found that in our sample study, among patients that died by suicide one third suffered from a depressive episode, followed by psychotic episode and bipolar disorder (13,25). Depression and bipolar disorder have a higher suicidal risk compared to general population (2,26). Martelli *et al.* (13) identified mood disorders (39-45 %) and schizophrenia (27-47 %) as the most frequent disorders in psychiatric inpatients that die by suicide. Schizophrenia is particularly concerned by suicide at the hospital: 50% of schizophrenia patients that die by suicide commit suicide during hospitalization.

As to suicide timeline during inpatient stays, several studies indicate as high risk periods of suicidal behaviors the first week of hospitalization and the two to three weeks after the discharge from a psychiatric department (1,8,29). The operational expertise on psychological autopsy (30) evaluates that 4 to 5% of deaths by suicide occur during the hospitalization and 10 to 15% occur on the 4 weeks following discharge. Unfortunately, the design of our study was not suited to explore clinical trajectory.

Factors associated with hospital suicide were AUD, patients that were not in receipt of a guardianship measure nor had a disability allowance. This data suggests that patients

committing suicide in hospital settings are those that have not been treated in the past. According to Rousset & Vacheron (27), suicidal risk increases for patients that are hospitalized frequently (28) and for short periods of time, but also with the number of involuntary admissions (13,27). Our findings are in agreement with previous studies as in the suicide related death group 47% had been hospitalized in the past month and 39% have had a consultation at the psychiatric emergency unit in the past three months. Also, the majority of patients that died by suicide were not hospitalized for a long-term stay (less than 6 months).

With regard to substance use, AUD seems to be a common disorder among patients that died by suicide in the hospital settings with a significant difference: 39% suffered from an AUD versus only 13% in the other group. This finding confirms our hypothesis and is consistent with former studies (5,6). Concerning tobacco use, two aspects need to be discussed: we have only 36% smokers on the suicide related group and 38% in the non-suicide related death group. Smoking prevalence increases with a greater number of mental disorders, ranging from 18% for people with no mental illness to 61% for people diagnosed with 3 or more mental disorders (31). Leonard et al. (32) shows an incidence of smoking of approximately 60% overall in individuals suffering of mental disorder, with schizophrenia showing the highest severity level of smoking (33). Mental illness is associated with heavier smoking, greater nicotine dependence, greater withdrawal symptoms when quitting, and lower quit rates (34–38). Unidentified information of tobacco use was considered as a negative response. In this context, we may consider that tobacco use which is generally frequent in psychiatric inpatients might have been underestimated. This underestimation may be linked to a tendency to trivialize tobacco use leading to an absence of data. Globally, SUD have been identified as a suicide risk factor and the presence of AUD as well as tobacco use in the suicide related death group is consistent with previous studies (39,40). However, before comparing to former studies caution is necessary because not all studies were exclusively referring to hospitalized patients.

An intriguing finding is that assessment of suicidal ideation was unidentified in 69% of patients that died by suicide at the hospital. This situation raises an important question regarding suicidal ideation assessment even in psychiatry units and even after admission. Therefore, we may say that the absence of systematic evaluation of suicidal ideation and personal history of suicidal behavior creates the conditions of overviewing an at-risk patient and insufficient suicide assessment may be seen as a suicidal risk factor. Martelli et al. (13) identified underestimation of suicide risk as a factor associated with suicide in medical care facilities along with availability of suicide methods, insufficient monitoring, absence of

intensive care unit and insufficient communication between medical and paramedical staff. In the same vein, Santarelli (25) indicates as one of the most important prevention methods an accurate assessment of suicidal risk along with removing access to suicide methods (41), staff training and communication between intervening parties.

Another hypothesis concerned suicide methods employed in hospital setting. Our findings confirm hanging and strangulation as the most frequent suicide methods. Nevertheless former studies are contradictory: most of them finding hanging as most frequent (7,8) while other find drowning as first method of suicide (9) or jumping from high places (10).One possible explanation would be the absence of bathtubs in our psychiatry wards, the long distance to rivers, lakes or high places and the easier access to wires or belts.

As to suicide in general hospital, literature gives a special attention to oncology departments. The literature review of Lefetz & Reich (44) identified suicide risk factors also found in general population, to which are added risk factors specific to oncology: partially relieved on non-relieved pain, presence of various symptoms (nausea, vomiting, dyspnea that may be treatment side-effects) or evolution of the disease towards a negative prognosis. The tumor location (lung, upper airways, pancreas, central nervous system) may also represent a risk factor for death by suicide. Several former studies (13,42,43) shed the light on the role of certain physical conditions, most frequently cancers in terminal phase but also chronic obstructive pulmonary disease, and the neurological conditions such as Huntington disease or multiple sclerosis. The interpretation of the data from the literature review must be contextualized given the recent improvement in the prognosis of many diseases. Another important aspect is that personal psychiatric history is rarely mentioned in inpatients files hospitalized in general care units which highlights the possibility of comorbid psychiatric disorders (most frequently mood disorders) that have not been diagnosed due to a poor rate of psychiatric evaluation during the hospitalization. In our small sample study, 22% of the patients committed suicide in a general care unit. Among these patients, two suffered from a metastatic lung cancer, fact that seems to accord with some of the previous studies (44), while other found the gastrointestinal localization as most at-risk (45).

In oncology, suicidal ideation may be expressed by complex requests such demanding stronger analgesics, euthanasia or medically assisted suicide. These requests lead towards ethical debates about death and the status of the dying patient that are beyond the object our study.

The main strength of our study was the large data collecting from sociodemographic to medical and psychiatric history that allowed us to explore several hypotheses. Another strength was the close look we decided to give to disability in our data research. This approach was oriented by our initial literature review conducted with our collaborators from APEX. This particular regard allowed us to highlight the beginning of the trajectory into the psychiatric health system as an at-risk moment for death by suicide in hospital settings.

There are several limits for our study. Firstly, the initial goal was to find the suicide prevalence in Indre-et-Loire hospitals. A confirmation of the literature review concerning the prevalence of suicide inpatients was difficult to run. This would have implied a more extensive collection of data with a registration of all deaths in medical and psychiatric care units on a given period. Second of all, we have conducted a pilot and retrospective study of an exploratory nature. Due to the fact that information was determined by retrospective examination of case notes, numerous details were lacking. Furthermore, the less recent inpatient files were very poor in social, demographic data but also personal history of medical and psychiatric disorders, probably linked to the fact that inpatient files were not yet digitalized. Another limit is the small sample study and the presence of a personal history of suicide attempt in all patients that obstructed our possibility to compare this variable.

The absence of information was frequently an obstacle in the process of data collecting. The absence social and demographic data was registered as a negative response. The only data maintained as unknown and considered as clinically significant in this form was data regarding suicidal ideation assessment.

The main clinical implication concerns the importance of systematic suicide risk assessment in psychiatry and general care facilities. A particular attention and management are needed for those who are experiencing first episodes of a psychiatric disorder and entering the health system. Priorities are to limit access to suicide methods and working closely with and training paramedical staff to assess suicidal risk. Concrete measures as standardized trainings could also improve suicidal crisis management and prevention.

The research perspective that we imagine is a prospective multicentric study conducted on an extended period of time. A prospective study would allow a more accurate data collecting. That could also be associated to a psychological autopsy research to obtain a complete picture of inpatients suicidal behavior timeline in their life trajectories.

V. CONCLUSION

Suicide rate in medical and psychiatric care facilities is low but not insignificant. In spite of our small sample size, the main finding that should be considered is that patients entering the healthcare system as more at risk for suicide. Another important point emphasizes the need of a standardized suicide risk assessment even during hospitalization. Further research is needed for a more accurate comparison of suicide risk factors in general and psychiatric hospital.

REFERENCES:

1. World Health Organization, 2014.WHO. http://apps.who.int/iris/bitstream/10665/131056 /1/9789241564779_eng.pdf?ua=1&ua=1 Accessed August 2019.

2. Plans L, Nieto E, Benabarre A, Vieta E. Completed suicide in bipolar disorder patients: A cohort study after first hospitalization. Journal of Affective Disorders. 2019 Oct; 257:340–4.

3. Observatoire National du Suicide. SUICIDE: Enjeux éthiques de la prévention, singularités du suicide à l'adolescence. 3e rapport. Février2018.

4. Observatoire National du Suicide. SUICIDE: Connaître pour prévenir : dimensions nationales, locales et associatives. 2e rapport. 2016 Février.

5. Schneider B. Substance Use Disorders and Risk for Completed Suicide. Archives of Suicide Research. 2009 Oct 15;13(4):303–16.

6. Darvishi N, Farhadi M, Haghtalab T, Poorolajal J. Alcohol-Related Risk of Suicidal Ideation, Suicide Attempt, and Completed Suicide: A Meta-Analysis. Voracek M, editor. PLoS ONE. 2015 May 20;10(5): e0126870.

7. Proulx F, Lesage AD, Grunberg F. One hundred in-patient suicides. Br J Psychiatry. 1997 Sep;171(3):247–50.

8. Williams SC, Schmaltz SP, Castro GM, Baker DW. Incidence and Method of Suicide in Hospitals in the United States. The Joint Commission Journal on Quality and Patient Safety. 2018 Nov;44(11):643–50.

9. Powell J, Geddes J, Deeks J, Goldacre M, Hawton K. Suicide in psychiatric hospital in-patients: Risk factors and their predictive power. Br J Psychiatry. 2000 Mar;176(3):266–72.

10. Cheng I-C, Hu F-C, Tseng M-CM. Inpatient suicide in a general hospital. General Hospital Psychiatry. 2009 Mar;31(2):110–5.

11. Fondation BFM, Association de Promotion des Expérimentations Sociales (APEX), CHU-Tours. Suicide, situation de handicap et perte d'autonomie. Revue de littérature problématisée. 2018 Mai.

12. Hunt IM, Bickley H, Windfuhr K, Shaw J, Appleby L, Kapur N. Suicide in recently admitted psychiatric in-patients: A case-control study. Journal of Affective Disorders. 2013 Jan;144(1–2):123–8.

13. Martelli C, Awad H, Hardy P. Le suicide dans les établissements de santé : données épidémiologiques et prévention. L'Encéphale. 2010 Jun;36:D83–91.

14. Autopsie Psychologique : Mise en œuvre et démarches associées [Internet]. [cited 2019 Aug 10]. Available from: http://www.ipubli.inserm.fr/handle/10608/79

15. World Health Organization, World Bank, editors. World report on disability. Geneva, Switzerland: World Health Organization; 2011. 325 p.

16. Leonardi M, Bickenbach J, Ustun TB, Kostanjsek N, Chatterji S. The definition of disability: what is in a name? The Lancet. 2006 Oct;368(9543):1219–21.

17. Rat A-C. La maladie chronique. Actes du séminaire préparatoire au plan visant à améliorer la qualité de vie des personnes atteintes de maladies chroniques. Santé publique, qualité de vie et maladie chronique: attentes des patients et des professionnels. Direction Générale de la Santé; 2004 décembre.

18. Manderscheid RW, Ryff CD, Freeman EJ, McKnight-Eily LR, Dhingra S, Strine TW. Evolving definitions of mental illness and wellness. Prev Chronic Dis. 2010 Jan;7(1):A19.

19. Dutta R, Murray RM, Allardyce J, Jones PB, Boydell JE. Mortality in first-contact psychosis patients in the UK: a cohort study. Psychol Med. 2012 Aug;42(8):1649–61.

20. Courtet P. Risque suicidaire lors du premier épisode psychotique. L'Encéphale. 2018 Dec;44(6):S39–43.

21. Park JE, Lee J-Y, Jeon HJ, Han KH, Sohn JH, Sung S jeong, et al. Age-related differences in the influence of major mental disorders on suicidality: A Korean nationwide community sample. Journal of Affective Disorders. 2014 Jun;162:96–101.

22. Qin P. The impact of psychiatric illness on suicide: Differences by diagnosis of disorders and by sex and age of subjects. Journal of Psychiatric Research. 2011 Nov;45(11):1445–52.

23. Peter F, Hassan F, Geslin G, Nguyen M. Déterminants des suicides aboutis et trajectoire de soin en santé mentale : étude par autopsie psychologique en population générale française. Annales Médico-psychologiques, revue psychiatrique. 2019 May;S0003448719301659.

24. Harris EC, Barraclough B. Suicide as an outcome for mental disorders: A meta-analysis. Br J Psychiatry. 1997 Mar;170(3):205–28.

25. Santarelli E. Etude des suicides au centre hospitalier psychiatrique Alpes Isère de 1998 à 2012 : comment améliorer la prévention? Université Joseph Fourier, Grenoble; 2015.

26. Kédia M, Fliou Y, Bellivier F. Conduites suicidaires et troubles bipolaires. Annales Médico-psychologiques, revue psychiatrique. 2012 Feb;170(1):62–5.

27. Rousset I, Vacheron M-N. Le suicide dans l'institution. Annales Médico-psychologiques, revue psychiatrique. 2007 Oct;165(8):545–55.

28. Winkler P, Mladá K, Csémy L, Nechanská B, Höschl C. Suicides following inpatient psychiatric hospitalization: A nationwide case control study. Journal of Affective Disorders. 2015 Sep;184:164–9.

29. Haglund A, Lysell H, Larsson H, Lichtenstein P, Runeson B. Suicide Immediately After Discharge From Psychiatric Inpatient Care: A Cohort Study of Nearly 2.9 Million Discharges. J Clin Psychiatry [Internet]. 2019 Feb 12 [cited 2019 Sep 11];80(2). Available from: https://www.psychiatrist.com/JCP/article/Pages/2019/v80/18m12172.aspx

30. Inserm. Application de l'autopsie psychologique aux suicides au cours d'hospitalisations. In : Inserm. Autopsie psychologique. Mise en œuvre et démarches associées. Paris : Inserm, 2008b:55-62.

31. Eriksen M, Mackay J, Schluger N, Islami F, Drope J. The Tobacco Atlas. Atlanta Am Cancer Soc 5th ed. 2015;

32. Leonard S, Adler LE, Benhammou K, Berger R, Breese CR, Drebing C, et al. Smoking and mental illness. Pharmacology Biochemistry and Behavior. 2001 Dec;70(4):561–70.

33. Jackson JG, Diaz FJ, Lopez L, de Leon J. A combined analysis of worldwide studies demonstrates an association between bipolar disorder and tobacco smoking behaviors in adults. Bipolar Disord. 2015 Sep;17(6):575–97.

34. Bowden JA, Miller CL, Hiller JE. Smoking and Mental Illness: A Population Study in South Australia. Aust N Z J Psychiatry. 2011 Apr;45(4):325–31.

35. Lasser K, Boyd JW, Woolhandler S, Himmelstein DU, McCormick D, Bor DH. Smoking and Mental Illness: A Population-Based Prevalence Study. JAMA. 2000 Nov 22;284(20):2606.

36. Gierisch JM, Bastian LA, Calhoun PS, McDuffie JR, Williams JW. Smoking Cessation Interventions for Patients with Depression: A Systematic Review and Meta-analysis. J GEN INTERN MED. 2012 Mar;27(3):351–60.

37. McClave AK, McKnight-Eily LR, Davis SP, Dube SR. Smoking Characteristics of Adults With Selected Lifetime Mental Illnesses: Results From the 2007 National Health Interview Survey. Am J Public Health. 2010 Dec;100(12):2464–72.

38. Prochaska JJ, Delucchi K, Hall SM. A Meta-Analysis of Smoking Cessation Interventions With Individuals in Substance Abuse Treatment or Recovery. Journal of Consulting and Clinical Psychology. 2004 Dec;72(6):1144–56.

39. Poorolajal J, Haghtalab T, Farhadi M, Darvishi N. Substance use disorder and risk of suicidal ideation, suicide attempt and suicide death: a meta-analysis. J Public Health. 2016 Sep;38(3):e282–91.

40. Poorolajal J, Darvishi N. Smoking and Suicide: A Meta-Analysis. Abulseoud OA, editor. PLoS ONE. 2016 Jul 8;11(7):e0156348.

41. Bowers L, Dack C, Gul N, Thomas B, James K. Learning from prevented suicide in psychiatric inpatient care: An analysis of data from the National Patient Safety Agency. International Journal of Nursing Studies. 2011 Dec;48(12):1459–65.

42. McKenzie W, Wurr C. Early suicide following dischargefrom a psychiatric hospital. Suicide Life Threat Behav2001;31:358—63

43. Ho TP, Tay MS. Suicides in general hospitals in Hong-Kong:retrospective study. Hong Kong Med J 2004;10:319—24

44. Lefetz C, Reich M. La crise suicidaire en cancérologie : évaluation et prise en charge; John Libbey Eurotext - Bulletin du Cancer [Internet]. 2006 [cited 2019 Aug 13]. Available from: https://www.jle.com/fr/revues/bdc/e-docs/la_crise_suicidaire_en_cancerologie_evaluation_et_prise_en_charge_269544/article.phtml

45. Louhivuori KA, Hakama M. RISK OF SUICIDE AMONG CANCER PATIENTS. American Journal of Epidemiology. 1979 Jan;109(1):59–65.

LIST OF TABLES

LIST OF FIGURES AND GRAPHICS

Résumé substantiel

Étude rétrospective sur les patients hospitalisés ayant des antécédents de tentative de suicide, décédés à l'hôpital psychiatrique ou général en Indre et Loire : facteurs associés au suicide à l'hôpital

Introduction : Le suicide dans les établissements de santé représenterait 5 à 6,5 % des suicides : 3 à 5,5 % survenant en hôpital psychiatrique et environ 2 % en hôpital général. L'objectif principal de cette étude était de mettre en évidence les facteurs associés à la mort par suicide dans une population avec des antécédents de tentatives de suicide.

L'objectif secondaire était de décrire le profil des patients à risque de décès par suicide à l'hôpital. L'hypothèse principale était que les troubles psychiatriques sont un facteur de risque important en particulier les troubles de l'humeur et la schizophrénie. L'entrée dans le parcours de soins représente aussi un moment à risque de décès par suicide et les troubles de l'usage sont corrélés positivement à la mort par suicide. Notre dernière hypothèse concernait le moyen de suicide par pendaison comme moyen le plus fréquent. Malgré ce tableau, les facteurs associés au décès par suicide dans un établissement de santé et les spécificités cliniques de ces patients restent peu explorés.

Méthode : Cette phase pilote s'inscrit dans une étude rétrospective multi-centrique d'envergure régionale. Les 60 dossiers des patients inclus sont ceux hospitalisés de janvier 2009 à décembre 2018 dans un service de Psychiatrie ou un service MCO (Médecine-Chirurgie-Obstétrique) au CHRU de TOURS et sur le CH du Chinonais, décédés pendant leur séjour d'hospitalisation (mode de sortie 9), qui avaient aussi des antécédents de tentative de suicide (code CIM-10 en X associé). Le recueil des données a concerné : les données socio-démographiques, les antécédents psychiatriques personnels et familiaux, l'évolution du trouble psychiatrique (aigu, actuel ou chronique), les antécédents personnels et familiaux de troubles de l'usage, le type de prise en charge avant le suicide et la description du suicide abouti.

Résultats : Les patients décédés par suicide à l'hôpital souffraient de pathologies psychiatriques (78% vs. 42%, *p=0.004*) et avaient un trouble de l'usage d'Alcool (TUA) (39%, *p=0.04*). Ces patients ne bénéficiaient pas de diagnostic de pathologie invalidante (58% vs 87%, *p=0.02*), ni de mesure de protection juridique (28% vs.54%, *p=0.03*) et ils étaient autonomes (72%, *p=0.01*). Les moyens de suicide les plus fréquents étaient la pendaison et la strangulation (44%). Dans le groupe des suicidés le motif d'hospitalisation les plus fréquent

était l'épisode dépressif (28%), suivi par l'épisode dépressif ou mixte dans le cadre du trouble bipolaire et la schizophrénie (17% des patients pour chaque trouble). Chez 69% des patients suicidés l'évaluation du risque suicidaire manquait, même dans les services de Psychiatrie.

Discussion : Les patients à risque de décès par suicide semblent être légèrement plus jeunes, autonomes, sans diagnostic de pathologie invalidante et sans mesure de protection juridique. Le handicap et la reconnaissance du handicap sont moins fréquents dans le groupe des suicidés ce qui incite à penser que les patients à risque de décès par suicide à l'hôpital sont ceux qui n'ont pas bénéficié d'une prise en charge globale et adaptée de leur trouble. Ces données semblent orienter vers l'idée que l'entrée dans les soins est associée à un risque de décès par suicide. Les troubles psychiatriques représentent des facteurs de risque de suicide et les patients qui souffrent de troubles de l'humeur et de schizophrénie semblent être plus touchées par le décès par suicide à l'hôpital. Les troubles de l'usage les plus fréquentes concernaient l'alcool et le tabac, substances associées dans la littérature à un risque élevé de passage à l'acte suicidaire et de décès par suicide.

La pendaison et la strangulation sont retrouvées comme moyens les plus commun dans notre étude, l'explication possible étant l'accès facile à des cordes ou ceintures et l'éloignement de rivières et d'endroits élèves, la noyade ou la précipitation étant citées comme moyens fréquents dans d'autres études.

Limites : L'absence des données a été souvent un obstacle dans le recueil des données. L'absence de données a été enregistré comme négative à l'exception de l'évaluation du risque suicidaire, notée comme non-renseignée, intéressante cliniquement dans cette forme.

Perspectives : Des études prospectives multicentriques réalisées sur une période étendue permettraient un recueil des données plus précis. Une étude de type autopsie psychologique pourrait être associée afin de mieux comprendre le comportement suicidaire du patient dans sa trajectoire de vie.

Conclusion : Les services de Psychiatrie sont plus touchés que les services de MCO. Les patients les plus à risque semblent être ceux souffrant d'une pathologie psychiatrique aigue (78%) et ayant un TUA. L'absence de diagnostic de handicap et de mesure de protection indiquent que les patients qui entrent dans les soins sont plus à risque de décès par suicide à l'hôpital et nécessitent une évaluation systématique du risque suicidaire ainsi qu'une surveillance clinique plus rapprochée.

Vu, le Directeur de Thèse
Vu

Vu, le Doyen
De la Faculté de Médecine de Tours
Tours, le

Résumé

Étude rétrospective sur les patients hospitalisés ayant des antécédents de tentative de suicide, décédés à l'hôpital psychiatrique ou général en Indre et Loire : facteurs associés au suicide à l'hôpital

Introduction : Le suicide dans les établissements de santé représenterait 5 à 6,5 % des suicides : 3 à 5,5 % survenant en hôpital psychiatrique et environ 2 % en hôpital général[1]. Cependant, les facteurs associés au décès par suicide dans un établissement de santé et les spécificités cliniques de ces patients sont peu explorés.

Méthode : Cette phase pilote s'inscrit dans une étude rétrospective multi-centrique d'envergure régionale. Les 60 dossiers des patients inclus sont ceux hospitalisés de janvier 2009 à décembre 2018 dans un service de Psychiatrie ou un service MCO (Médecine- Chirurgie-Obstétrique) au CHRU de TOURS et sur le CH du Chinonais, décédés pendant leur séjour d'hospitalisation (mode de sortie 9), qui avaient aussi des antécédents de tentative de suicide (code CIM-10 en X associé).

Résultats : Les patients décédés par suicide à l'hôpital souffraient de pathologies psychiatriques (78% vs. 42%, *p=0.004*) et avaient un trouble de l'usage d'Alcool (TUA) (39%, *p=0.04*). Ces patients ne bénéficiaient pas de diagnostic de pathologie invalidante (58% vs 87%, *p=0.02*), ni de mesure de protection juridique (28% vs.54%, *p=0.03*) et ils étaient autonomes (72%, *p=0.01*). Les moyens de suicide les plus fréquents étaient la pendaison et la strangulation (44%). Chez 69% des patients suicidés l'évaluation du risque suicidaire manquait, même dans les services de Psychiatrie.

Conclusion : Les services de Psychiatrie sont plus touchés que les services de MCO. Les patients les plus à risque semblent être ceux souffrant d'une pathologie psychiatrique aigue (78%) et ayant un TUA. L'absence de diagnostic de handicap et de mesure de protection indiquent que les patients qui entrent dans les soins sont plus à risque de décès par suicide à l'hôpital et nécessitent une évaluation systématique du risque suicidaire ainsi qu'une surveillance clinique plus rapprochée.

Mots clés : suicide – patient – hospitalisation - trouble psychiatrique - trouble de l'usage - évaluation du risque suicidaire

SANDU Ecaterina

41 pages – 6 tableaux – 1 figure -2 graphiques

Étude rétrospective sur les patients hospitalisés ayant des antécédents de tentative de suicide, décédés à l'hôpital psychiatrique ou général en Indre et Loire : facteurs associés au suicide à l'hôpital

Introduction : Le suicide dans les établissements de santé représenterait 5 à 6,5 % des suicides : 3 à 5,5 % survenant en hôpital psychiatrique et environ 2 % en hôpital général[1]. Cependant, les facteurs associés au décès par suicide dans un établissement de santé et les spécificités cliniques de ces patients sont peu explorés.

Méthode : Cette phase pilote s'inscrit dans une étude rétrospective multi-centrique d'envergure régionale. Les 60 dossiers des patients inclus sont ceux hospitalisés de janvier 2009 à décembre 2018 dans un service de Psychiatrie ou un service MCO (Médecine- Chirurgie-Obstétrique) au CHRU de TOURS et sur le CH du Chinonais, décédés pendant leur séjour d'hospitalisation (mode de sortie 9), qui avaient aussi des antécédents de tentative de suicide (code CIM-10 en X associé).

Résultats : Les patients décédés par suicide à l'hôpital souffraient de pathologies psychiatriques (78% vs. 42%, *p=0.004*) et avaient un trouble de l'usage d'Alcool (TUA) (39%, *p=0.04*). Ces patients ne bénéficiaient pas de diagnostic de pathologie invalidante (58% vs 87%, *p=0.02*), ni de mesure de protection juridique (28% vs.54%, *p=0.03*) et ils étaient autonomes (72%, *p=0.01*). Les moyens de suicide les plus fréquents étaient la pendaison et la strangulation (44%). Chez 69% des patients suicidés l'évaluation du risque suicidaire manquait, même dans les services de Psychiatrie.

Conclusion : Les services de Psychiatrie sont plus touchés que les services de MCO. Les patients les plus à risque semblent être ceux souffrant d'une pathologie psychiatrique aigue (78%) et ayant un TUA. L'absence de diagnostic de handicap et de mesure de protection indiquent que les patients qui entrent dans les soins sont plus à risque de décès par suicide à l'hôpital et nécessitent une évaluation systématique du risque suicidaire ainsi qu'une surveillance clinique plus rapprochée.

Mots clés : suicide – patient – hospitalisation - trouble psychiatrique - trouble de l'usage - évaluation du risque suicidaire.

Président du jury **:** Professeur Nicolas BALLON

Directeur de thèse : Professeur Wissam EL HAGE

Membres du jury : Professeur Marie GRALL-BRONNEC

Docteur Bertrand MICHEL

Docteur Hussein EL AYOUBI

Madame Céline LORIENTE-JUNG

Date de soutenance :15 octobre 2019