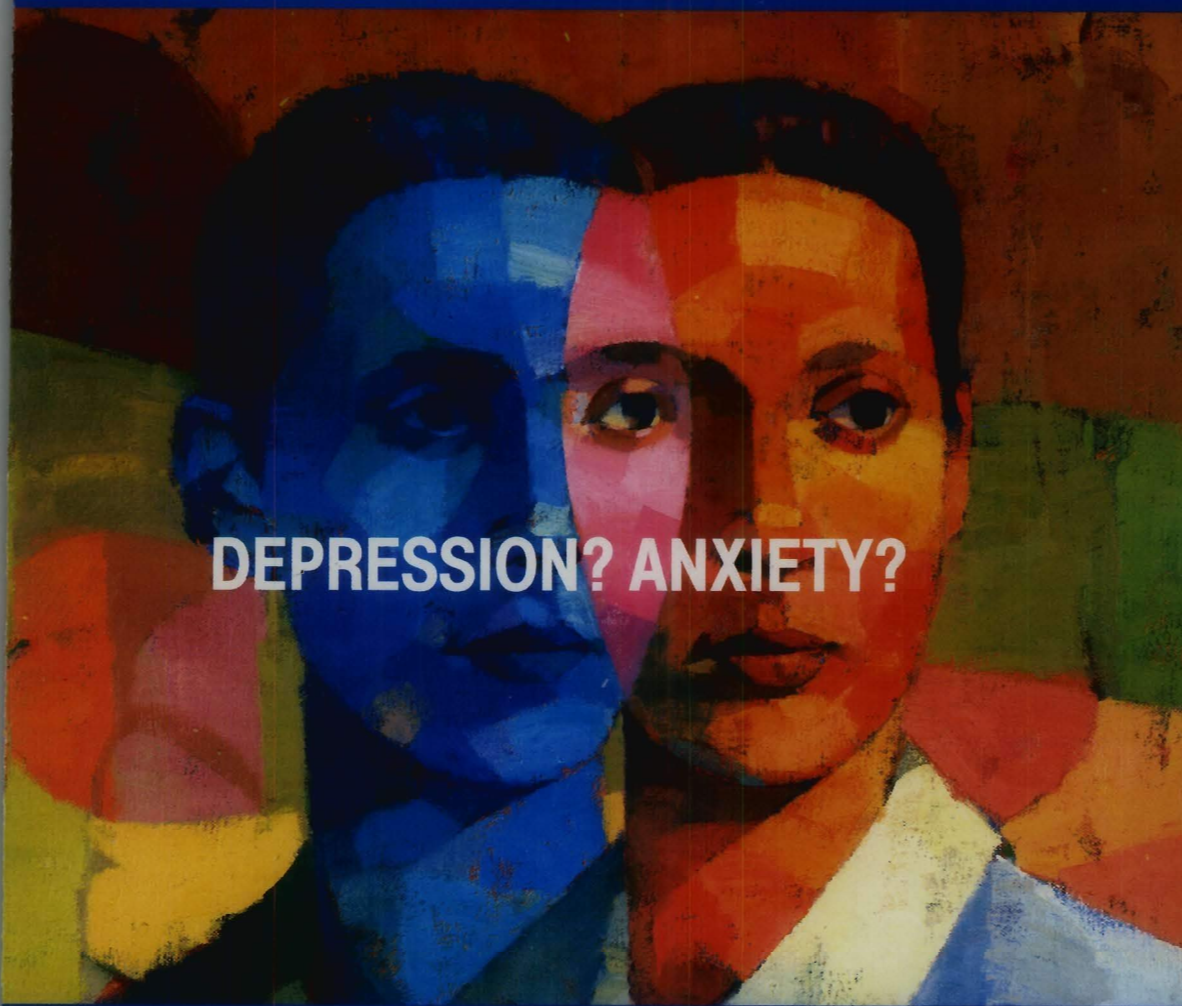

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لقد صدرت المجلة العربية للطب النفسي عام 1989 من قبل اتحاد الأطباء النفسانيين العرب، وينشر في المجلة أبحاث علمية أصيلة، مراجعات علمية ومقالات تهتم بالعمل السريري. ويمكن أن تكتب المقالة باللغة العربية أو الإنجليزية مع ملخصين باللغة العربية والانجليزية. ويتم قبول الأوراق العلمية التي تتمشى مع أخلاقيات القوانين المحلية والدولية. ويمكن أن ترسل المقالات إما الى رئيس التحرير أو نائبه أو المحررين المشاركين. وتقيّم كل الأوراق من قبل محكمين دوليين.

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ابن سينا
وكتاب القانون- الجزء الأول *

ولد الشيخ الرئيس أبو علي الحسين بن علي بن سينا قرب بخارى حوالي سنة 370هـ /980 م ، وتوفي في همدان سنة 428 هـ / 1037م ، لقب بالشيخ وعرف بالرئيس ، وأطلق عليه لقب المعلم الثالث بعد أرسطو والفارابي . ألف أبن سينا 276 كتاباً في مختلف العلوم ، ويعتبر كتابه القانون أشهرها ، وفي خلاصة الطب اليوناني والعربي .

وخلال حياته التي بلغت 58 عاماً، وعلى الرغم من سلسلة القلاقل والإضطرابات والرحلات في حياة ابن سينا ، إلا أن ذلك يزيدنا به إعجاباً حين نراه يؤلف في مختلف أنواع المعرفة .

ومن مؤلفات ابن سينا : 43 كتاباً في الطب ، 31 في اللاهوت منها كتابة المشهور "الشفاء"، 26 في الفيزياء ، 24 في الفلسفة ، 23 في ما نسميه اليوم علم النفس ، 22 في المنطق ، 15 في الرياضيات ، 14 مجموعة مراسلات وهمسة في تفسير القرآن .

وترجم له القفطي وأبن أبي أصيبعة ما ذكره هو (أبن سينا) عن نفسه ونقله عنه أبو عبيد الجوازجاني ، أحد تلاميذه ، حيث يقول الشيخ الرئيس : " إن أبي كان من أهل بلخ ، وأنتقل منها إلى بخارى في أيام نوح بن منصور ... وتزوج أبي بوالدتي في قرية يقال لها أفشنه ، وقطن بها وولدت بها ، ثم انتقلنا إلى بخارى ، وأحضرت معلم القرآن ومعلم الأدب ، وأكملت العشر من العمر وقد أتيت على القرآن وعلى كثير من الأدب ، حتى كان يقضى مني العجب ".

وكان أبي ممن أجاب داعي المصريين ويعد من الإسماعيلية ، وقد سمع منهم ذكر النفس والعقل على الوجه الذي يقولونه ويعرفونه هم ، وكانوا ربما تذاكروا بينهم وأنا أسمعهم وأدرك ما يقولونه ولا تقبله نفسي ، وابتدأوا يدعونني أيضاً إليه ويجرون على ألسنتهم ذكر الهندسة والفلسفة وحساب الهند ، وأخذ يوجهني إلى رجل كان يبيع البقل ويقوم بحساب الهند حتى أتعلمه منه ، ثم جاء إلى بخارى أبو عبدالله النائلي وكان يدعى

المتفلسف ، وأنزله أبي درانا رجاء تعليمي منه .

وقبل قدومه كنت أشتغل بالفقه والتردد فيه إلى إسماعيل الزاهد وكنت أجود السالكين ... ثم ابتدأت بكتاب إيساغوجي على النائلي ... حتى قرأت ظواهر المنطق عليه .. ثم أخذت أقرأ الكتب على نفسي وأطالع الشروح حتى أحكمت علم المنطق. وكذلك كتاب إقليدس.. ثم أنتقلت إلى المجسطي .

ثم رغبت في علم الطب وصرت أقرأ الكتب المصنفة فيه ، وعلم الطب ليس من العلوم الصعبة ، فلا جرم أني برزت فيه في أقل مدة حتى بدأ فضلاء الطب يقرءون علي علم الطب ، وتعدت المرضى فانفتح علي من أبواب المعالجات المقتبسة من التجربة ما لا يوصف ، وأنا مع ذلك أختلف إلى الفقه وأناظر فيه ، وأنا في هذا الوقت من أبناء ست عشرة سنة .

ثم توفرت على العلم والقراءة سنة ونصفاً.. وفي هذه المدة ما نمت ليلة واحدة بطولها ولا اشتغلت النهار بغيره .. وكلما كنت أتحير في مسألة ولم أكن أظفر في حلها ترددت إلى الجامع ، وصليت وابتهلت إلى مبدع الكل حتى فتح لي المنغلق وتيسر المتعسر .

وكنت مهما أخذني أدنى نوم أحلم بتلك المسائل بأعيانها ، حتى إن كثيراً من المسائل اتضح لي وجوهها في المنام ، وكذلك حتى استحكم معي جميع العلوم، ووقفت عليها بحسب الإمكان الإنساني .. ثم عدلت إلى (العلم) الإلهي وقرأت كتاب ما بعد الطبيعة ، فما كنت أفهم ما فيه حتى قرأته أربعين مرة ، وصار لي محفوظاً وأنا مع ذلك لا أفهمه .. وفي أحد الأيام حضرت في الورّاقين وبيد دلاّل مجلد ينادي عليه فعرضه علي فرددته رد متبرم ، فقال لي اشتر هذا مني فإنه رخيص أبيعكـــهُ بثلاثة دراهم وصاحبه محتاج إلى ثمنه ، وأشَتريته فإذا هو كتاب لأبي نصر الفارابي في أغراض كتاب ما بعد الطبيعة ورجعت إلى بيتي وأسرعت قراءته ، فانفتح علي في الوقت أغراض ذلك الكتاب وفرحت بذلك وتصدقت في ثاني يومه بشيء كثير على الفقراء شكراً لله تعالى ..

وكان سلطان بخارى في ذلك الوقت نوح بن منصور ، واتفق له مرض أتلج الأطباء فيه ، وكان اسمي اشتهر بينهم بالتوفر على القراءة ، فأجروا ذكري بين يديه وسألوه إحضاري ، فحضرت وشاركتهم في مداواته وتوسمت بخدمته فسألته يوماً الإذن لي في دخول دار كتبهم ومطالعتها وقراءة ما فيها من كتب الطب ، فأذن لي فدخلت داراً ذات بيوت كثيرة في كل بيت صناديق كتب منضدة بعضها على

بعض ..وفي كل بيت كتب علم مفرد . فطالعت فهرست كتب الأوائل وطلبت ما احتجت إليه منها ورأيت من الكتب ما لم يقع اسمه إلى كثير من الناس قط ..فقرأت تلك الكتب وظفرت بفوائدها ، فلما بلغت ثماني عشرة سنة من عمري فرغت من هذه العلوم كلها .

كان إبن سينا إلى جانب علمه بالطب فيلسوفاً ، وقد مكنته قدراته العقلية بوصفه فيلسوفاً من أن ينظر النظرة الكلية الشاملة للطب ، فيضع النظريات الطبية في صورة متكاملة ، وأن يقوده المنطق إلى استنتاجات عقلية صحيحة في مجال الطب . ويعد ابن سينا أول من وصف إلالتهاب السحائي ، وأول من ميز بين الشلل الناتج عن سبب داخلي في الدماغ وبين الشلل الناتج عن سبب خارجي ، وتوصل إلى وصف السكتة الدماغية الناتجة عن كثرة الدم (مخالفاً بذلك تعاليم اليونان) وله بعض التشخيصات لأمراض كانت منتشرة في عصره كشلل الوجه .

وكان إبن سينا أول من أستعمل التخدير عن طريق الفم وأدرك أن الأفيون أقوى مخدر ، وعرف أنواعاً أخرى أخف مثل اللفاح والشوكران وحبوب الخس والثلج والماء البارد . والتخدير عند إبن سينا " يزيل الوجع ، لأنه يذهب بحس العضو الذي فيه الوجع".

وعارض ابن سينا أقوال القدماء بأن الأنسجة الطرية كالدماغ والأنسجة القاسية كالعظم لا تلتهب بتاتاً ، وخطأ هذه النظرية . وكان أول من أكتشف التهابات غشاء الدماغ وميزها عن إلالتهابات المزمنة ووضع أول وصف لتشخيص مرض تصلب الرقبة وإلتهاب السحايا بشكل واضح يضاهي ما نقوم به في أيامنا هذه علماً وصحة .

وبعد أن استوعب علم الطب ، وبدأ الممارسة الطبية لصناعته تأدباً لا تكسباً ، كان في الوقت نفسه يجرب نفسه يجرب وسائل العلاج ، وهو يحدثنا عن نفسه قائلاً : وتعهدت المرضى فانفتح علي من أبواب المعالجات المقتبسة من التجربة ما لا يوصف " .

ومن دأب المصنفين والمنشئين أن يقتبسوا عبارات من كتب الآخرين ويستمدوا منها ، فأخذ ابن سينا من كتب الأطباء الضليعين الذين سبقوه ، وليس يجرح في علمه لهذا ، ولكن الذي يثير العجب أنه ذكر في شتى المواضع من كتاب القانون أسماء الذين استفاد منهم ومن كتبهم مثل جالينوس وبقراط وغيرهم من الأطباء ، ولكنه أعرض عن ذكر أسم الرازي إعراضاً تاماً حتى لم يذكر أسمه إطلاقاً ، بل عبر بألفاظ مبهمة عنه

وأحياناً بالتقليل من مكانته مثل : "قال قائل " أو " قال بعض المتطببين " أو " قيل " ، رغم أنه استفاد من عبارات كتاب " الحاوي في الطب" للرازي ودمجها في كتاب القانون كأنها من عبارات المتن مع أن الحقيقة أنها مقتطفات ومقتبسات من كتاب الحاوي ويؤيد " شاخت وبوزورث " الدراسات الرائدة التي قام بها ألبير اسكندر ، التي تعتبر دليلاً لا يمكن نقضه ، على أن أقساماً كاملة من كتاب ابن سينا في الطب تعتمد أعتماداً أساسياً على الرازي ، ولذا فدون أن تكون لدينا رغبة في التقليل من مكانة ابن سينا كمعلم وطبيب ، لابد من الاعتراف بأنه أعتمد على غيره كمؤلف في الطب إلى حد يزيد بكثير عما كان يظن سابقاً .

وبالتأكيد فإن ابن سينا قرأ كتب الرازي ، خاصة وأن الرازي كان طبيباً للأمير منصور بن نوح . فيما أصبح ابن سينا طبيباً لولده الأمير نوح بن منصور الساماني . (توفي 387هـ/997 م) .

وأوضح ابن سينا حقيقة علمية كبيرة في كسور الجمجمة وهي إن عظام الجمجمة إذا انكسرت لا تلتئم بالطريقة التي تلتئم بها باقي عظام الجسم ،بل تبقى منفصلة وبشكل دائم ، وما يجمعها ببعضها بع الكسر نسيج ليفي مجمع ، ويقول :" فاعلم أن عظام الرأس تخالف عظام الرأس تخالف عظاماً أخرى إذا انكسرت لم تجر الطبيعة عليها شيئاً قوياً كما تجريه على سائر العظام بل شيئاً ضعيفاً ".

ويقسم ابن سنيا كسور الجمجمة إلى قسمين : الأول كسور مغلقة لا تترافق بجروح ، وهذه خطرة لما يرافقها من تورم واحتباس دم وصديد ، حيث يقول : كثيراً ما يعرض أن ينكسر القحف ولا ينشق الجلد بل يتورم ، فإذا اشتغل بعلاج الورم ولم يتعرض للشجة فربما عرض أن يفسد العظم من تحت . وتعرض قبل البرء أو بعده أعراض رديئة من الحميات والرعشة وذهاب العقل وغير ذلك فيحتاج إلى أن يشق ".

ويؤكد ابن سنا على ضرورة إزالة العظام الغائرة في كسور الجمجمة عن أغلفة المخ ، وربما يتم ذلك من خلال استعمال مثاقب .

ويضيف أنه يجب في مثل هذه الحالات فصد المريض ، والإقلال من الطعام المقدم له ، وإسهاله لإنقاص المياه من جسمه لتخفيف الضغط عن الجمجمة.

ويقول ابن سينا : انه قد يستعمل مرض ما وسيلة لعلاج مرض آخر ، ويستشهد بحمى الرِّبع التي قد تستعمل لمعالجة الصرع .

ويذكر في " الرسالة الألواحية "، التي جعل فيها ترتيب الأدوية المفردة ألواحاً حسب قواها وأفعالها ومنافعها بالأعضاء والأمراض والخلاط ، الأدوية التي تنفع مع أنواع الصداع ومنها :

- زهر الحنا ينفع من الصداع الحار شماً و ضماداً .
- ياسمين ينفع من الصداع شماً .
- قيسوم ينفع من الصداع البارد نطولا

ومن أدوية الصرع يذكر نبات الجعة ، ودماغ ابن عرس ومرارة القنفذ .

كما يذكر أن حب الغر ينفع من الفالج والخدر شراباً ودهناً ، والياسمين ينفع من اللقوة وعلل العصب البارد شماً ودهناً ، والسمسم ينفع من التشنج اليابس ، والصنوبر جيد للرعشة .

القانون في الطب لابن سينا

يفسر " قاموس أصول الكلمات " كلمة " قانون – Canon " أنها تعني : مرسوم كنسي ، كلمة يونانية تعني القاعدة ، أو الحكم ، أو الحاكم ، معيار ، كتاب أصيل أو موثوق به ، مجموعة كتب جديرة بالتصديق .

وتنطبق التعريفات السابقة على كتاب " القانون في الطب " لابن سينا الذي أرداه أن يكون القاعدة والمعيار في الطب ، والكتاب الأصيل الموثوق به والحد الفاصل في مسائل الطب .

وحقاً فقد كان الكتاب هكذا لمئات السنين ، ليس في الطب العربي والإسلامي فحسب وإنما في أوروبا ولمئات السنين ، وكانت آخر كلية طب تدرسه هي كلية مدينة لوفان البلجيكية في منتصف القرن الثمان عشر ، وقال السير وليام أوسلر ، الطبيب الإنجليزي الشهير عنه :" كان الإنجيل الطبي لأطول فترة من الزمان ".

ويقول ابن سينا في مقدمة كتابه القانون : " فقد التمس مني بعض خلّص إخواني ومن يلزمني إسعافه بما يسمح به وسعي ، أن أصنف في الطب كتاباً مشتملاً على قوانينه الكلية والجزئية اشتمالاً يجمع إلى الشرح والإختصار ، والى إيفاء الأكثر حقه من البيان الإيجاز".

ونلاحظ من الفقرة السابقة أن ابن سينا توخي الإيجاز في الكتاب ، ومع ذلك يحتوي الكتاب على مليون كلمة تقريباً ، فيكف يكون الكتاب لو كان هدفه الإطالة والتفصيل ؟!.

وقد عرفت أوروبا كتاب القانون لابن سينا خلال القرن الثاني عشر الميلادي عندما

(Gerard of Cremona) إلى طليطلة Toledo لتعلم اللغة العربية وترجمة كنوزها إلى اللاتينية .
وانتشر الكتاب في أوروبا ، ولم يكتف العلماء بدراسته وتدريسه ، بل قاموا بشرحه والتعليق عليه وذلك منذ القرن الثالث عشر ، وفي النصف الأول من القرن الخامس عشر أمضى الفرنسي جال ديبارس Jaques Depars إحدى وعشرين سنة من حياته في شرح الكتاب في خمسة عشر مجلداً أهداها لكلية الطب في جامعة باريس بعد وفاته ، ولا يزال بعض هذه المجلدات محفوظاً فيها حتى الآن .
وطبع كتاب القانون لابن سينا لأول مرة باللاتينية في مطبعة مجهولة في ميلانو أو في بادوفا بإطاليا عام 1472 ثم أعقب ذلك أربع عشرة طبعة أغلبها في أيطاليا ما عدا واحدة طبعت في مدينة ليون بفرنسا عام 1498 .
وطبع بالعربية لأول مرة في روما عام 1593 على المطبعة الحجرية في مطبعة ميديسيس ، وتلتها طبعة القاهرة في بولاق 1294هـ/1877م.
وحقق كتاب القانون في الطب لابن سينا شهرة ندر أن يحققها كتاب طبي آخر على مدى عدة قرون .
يقول الدكتور الألماني المشهور ماكس مايرنهوف في هذا الصدد إنه " لشدة الطلب على كتاب القانون ، طبع أكثر من 36 مرة في آخر ثلاثين سنة من القرن الخامس عشر والقرن السادس عشر ، ولا يدخل في ذلك طبع أجزاء متفرقة منه ".
ويضيف أنك لتجد قبر هذا الطبيب حتى الأن في همدان غربي إيران تزينه الأدعية الدينية المنقوشة على حافته .

الدماغ والأعصاب في كتاب القانون لابن سينا

يشتمل كتاب القانون على خمسة كتب من ضمنها الأمراض العصبية أولها في الأمور الكلية والثاني في الأدوية المفردة ، والثالث في الأمراض الجزئية والرابع في الأمراض العامة والخامس في الأدوية ، وقد لخصه ابن سينا في أرجوزة من 1326 بيتاً ، قسم هذا الكتاب على أثنين وعشرين فناً ، وكل فن يشتمل على عدة مقالات ، وكل مقالة منقسمة على فصول وتستوفي الكلام في الأمراض الجزئية الواقعة بأعضاء الإنسان ظاهرها وباطنها .

الفن الأول من الكتاب الثالث من القانون في أمراض الرأس والدماغ وهو خمس مقالات .

المقالة الأولى ، في كليات أحكام أمراض الرأس والدماغ .
المقالة الثانية ، في أوجاع الرأس وهو أصناف .
المقالة الثالثة ، في أورام الرأس وتفرق اتصالاته.
المقالة الرابعة ، في أمراض الرأس وأكثر مضارها في أفعال الحس والسياسة
المقالة الخامسة ، في أمراض دماغية آفاتها في أفعال الحركة الإدارية قوية .

في أمراض الرأس والدماغ يشتمل على خمس مقالات

المقالة الأولى

في كليات أحكام أمراض الرأس والدماغ

فصل في معرفة الرأس وأجزائه

قال جالينوس :"إن الغرض في خلقة الرأس ليس هو الدماغ ولا السمع ولا الشم ولا الذوق ولا اللمس ، فإن هذه الأعضاء والقوى موجودة في الحيوان العديم الرأس ، ولكن الغرض فيه هو حسن حال العين في تصرفها الذي خلقت له وليكون للعين مطلع ومشرف على الأعضاء كلها وفي الجهات جميعها ، فإن قياس العين إلى البدن قريب من قياس الطليعة إلى العسكر . وأحسن المواضع للطلائع وأصلحها هو الموضوع المشرف ثم أيضاً لا حاجة إلى خلق الرأس لكل عين على الإطلاق ، بل للحيوان اللين العين المحتاجة عينه إلى فضل حرز ووثاقة موضع ، فإن كثيراً من الحيوانات العديمة الأرؤس خلق له زائدتان مشرفتان من البدن ، وهندم عليهما عينان ليكون لكل منهما مطلع ومشرف لبصره ثم لم يحتج في تصرفات عينه إلى خلقه رأس لصلابة مقلته ، وإنما الحاجة إلى الرأس للحيوانات التي تحتاج إلى كِنٍّ وتحتاج إلى أن تأتيها أعصاب لحركات شتى من حركات المقلة والأجفان ، لا يصلح لمثلها عضو واحد متباعد متضائل ونحن نستقصي ذلك في باب العين . وأجزاء الرأس الذاتية وما يتبعها هي :
الشعر ثم الجلد ثم اللحم ثم الغشاء ثم القحف ثم الغشاء الصلب ثم الغشاء الرقيق المشيمي ثم الدماغ جوهره وبطونه ، وما فيه ثم الغشاءان تحته ثم الشبكة ثم العظم الذي هو القاعدة للدماغ .

فصل في تشريح الدماغ

فأما تشريح الدماغ ، فإن الدماغ ينقسم إلى جوهر حجبي والى جوهر مخي والى تجاويف فيه مملوءة روحاً ، وأما الأعصاب فهي كالفروع المنبعثة عنه لأعلى ، إنها أجزاء جوهرة الخاص به

، وجميع الدماغ منصف في طوله تنصيفاً نافذاً في حُجُبه ومُخِّه وبطونه ، لما في التزويج من المنفعة المعلومة ، وإن كانت الزوجية في البطن المقدم وحده أظهر للحس وقد خلق جوهر الدماغ بارداً رطباً

أما برده قليلاً ، فلشغله كثرة ما يتأدى من قوى حركات الأعصاب وانفعالات الحواس وحركات الورح في الإستحالات التخيلية والفكرية والذكرية ، وليعتدل به الروح الحار جداً النافذ إليه من القلب في العرقين الصاعدين منه إليه ، وخلق رطباً لئلا تجففه الحركات وليحسن تشكله وخلق ليناً دسماً .

أما الدسومة فليكون ما ينبت منه من العصب علكا وأما اللين فقد قال " جالينوس " إن السبب فيه ليحسن تشكله وإستحالته بالمتخيلات ، فإن اللين أسهل قبولاً للأستحالات ، فهذا ما يقوله .

وأقول : خلق ليناً ليكون دسماً وليحسن غذاؤه للأعصاب الصلبة بالتدريج ، فإن الأعصاب قد تتغذى أيضاً من الدماغ والنخاع . ثم الجوهر الصلب لا يمد الصلب بما يمده اللين ، وليكون ما ينبت عنه لدنا ، إذ كان بعض النابت منه محتاجاً إلى أن يتصلب عند أطرافه لما سنذكره من منافع العصب . ولما كان هذا النابت محتاجاً إلى الصلب على التدريج وتكون صلابته صلابة لدن وجب أن يكون منشؤه جوهراً لدنا دسماً والدسم اللزج لين لا محالة .

وأيضاً ليكون الروح الذي يحويه الذي يفتقر إلى سرعة الحركة ممدداً برطوبة ، وأيضاً ليخف بتخلخله فإن الصلب من الأعضاء أثقل من اللين الرطب المتخلخل

لكن جوهر الدماغ أيضاً متفاوت في اللين والصلابة ، وذلك لأن الجزء المقدم منه ألين من الجزء المؤخر أصلب ، وفرق مابين الجزء ين باندراج الحجاب الصلب الذي نذكره فيه إلى حد ما ، وإنما لين مقدم الدماغ لأن أكثر عصب الحس وخصوصاً الذي للبصر والسمع ينبت منه ، لأن الحس طليعة البدن ، وميلُ الطليعة إلى جهة المقدم أولى .. وعصب الحركة أكثره ينبت من مؤخره وينبت منه النخاع الذي هو رسوله وخليفته في مجرى الصلب ، وحيث يحتاج إلى أن ينبت منه أعصاب قوية وعصب الحركة يحتاج إلى فضل صلابة لا يحتاج إليه عصب الحس ، بل اللين أوفق له فجعل منشؤه أصلب ، وإنما أدرج الحجاب فيه ليكون فضلاً ، وقيل ليكون اللين مبرأ عن مماسة الصلب لأن ما يغوص فيه صلب ولين جداً .

ولهذا الطي منافع أخرى ، فإن الأوردة النازلة إلى الدماغ المتفرقة فيه تحتاج إلى مستند والى شيء يشدها ، فجعل هذا الطي دعامة لها ، وتحت أخر هذا العطف ، والى خلفه المعصرة وهي مصب الدماء إلى فضاء كالبركة ، ومنها تتشعب جداول يتفرق فيها الدم ويتشبه بجوهر الدماغ ثم تنسفها العروق من فوهاتها وتجمعها إلى عرقين .

وفي مقدم الدماغ منبت الزائدتين الحلميتين اللتين بهما يكون الشم ، وقد فارقتا لين الدماغ قليلاً ولم تلحقهما صلابة العصب . وقد جلل الدماغ كله بغشاءين أحدهما رقيق يليه ، والآخر صفيق يلي العظم وحلقا ليكونا حاجزين بين الدماغ وبين العظم ولئلا يماس الدماغ جوهر العظم ولا تتأذى إليه الآفات من العظم ، وإنما تقع هذه المماسة في أحوال تزيد الدماغ في جوهره ، أو في حال الأنبساط الذي يعرض له عقيب الأنقباض . وقد يرتفع الدماغ إلى القحف عند أحوال مثل الصياح الشديد ، فلمثل هذا من المنفعة ما جعل بين الدماغ وعظم القحف حاجزان متوسطان بينهما في اللين والصلابة ، وجعلا اثنين لئلا يكون الشئ الذي تحسن ملاقاته للعظم بلا واسطة هو بعينه الشئ الذي تحسن ملاقاته الدماغ بلا واسطة ، بل فرق بينهما ، فكان القريب من الدماغ رقيقاً والقريب من العظم صفيقا ، وهما معاً كوقاية واحدة . وهذا الغشاء مع أنه وقاية للدماغ فهو رباط للعروق التي في الدماغ ساكنها وضاربها وهو كالمشيمة يحفظ أوضاع العروق بانتساجها فيه ، وكذلك ما يداخل أيضاً جوهر الدماغ في مواضع كثيرة من دروزه إلى بطونه وينتهي عند المؤخر منقطعاً لاستغنائه بصلابته عنه .

والعشاء الثخين غير ملتصق بالدماغ ولا بالرقيق التصاقاً يتهندم عليه في كل موضع ، بل هو مستقب عنه ، إنما يصل بينهما العروق النفافذة في الثخين إلى الرقيق . والثخين مسمر إلى القحف بروابط غشائية تنبت من الثخين تشده إلى الدروز لئلا تثقل على الدماغ جداً . وهذه الأربطة تطلع من الشؤون إلى ظاهر القحف ، فتنبث هناك حتى ينتسج منها الغشاء المجلل للقحف ، وبذلك ما يستحكم ارتباط الغشاء الثخين بالقحف أيضاً .

وللدماغ في طوله ثلاثة بطون ، وان كان كل بطن في عرضه ذا جزئين . الجزء المقدم محسوس الإنفصال إلى جزء ين يمنة ويسرة ، وهذا الجزء يعين على الإستنشاق وعلى نفض الفضل العطاس وعلى توزيع أكثر الروح الحساس وعلى أفعال القوى المصورة من قوى الإدراك الباطن ،

وأما البطن المؤخر فهو أيضاً عظيم لأنه يملأ تجويف عضو عظيم ولأنه مبدأ شيء عظيم ، أعني النخاع ومنه يتوزع أكثر الروح المحرك وهناك أفعال القوة الحافظة لكنه أصغر من المقدم ، بل من كل واحد من بطني المقدم ، ومع ذلك فإنه يتصاغر تصاغراً متدرجاً إلى النخاع ، ومنه يتوزع أكثر الروح المحرك وهناك أفعال القوة الحافظة لكنه أصغر من المقدم ، بل من كل واحد من بطني المقدم ، ومع ذلك فإنه كمنفذ من الجزء المقدم إلى الجزء المؤخر وكدهليز مضروب بينهما ، وقد عظم لذلك وطول لأنه مؤد من عظيم إلى عظيم ، و به يتصل الروح المقدم بالروح المؤخر وتتأذى أيضاً الأشباح المتذكرة ،ويتسقف مبدأ هذا البطن الأوسط بسقف كري الباطن كالأزج ويسمى به ليكون منفذاً ، ومع ذلك مبعداً بتدويره من الآفات وقوياً على حمل ما يعتمد عليه من الحجاب المدرج ، وهناك يجتمع بطنا الدماغ المقدمان اجتماعاً يراعيان للمؤخر في هذا المنفذ وذلك الموضوع يسمى مجمع البطنين وهذا المنفذ نفسه بطن . ولما كان منفذا يؤدي عن التصور إلى الحفظ ، كان أحسن موضع للتفكر والتخيل على ما علمت ويستدل على أن هذه البطون مواضع قوى تصدر عنها هذه الأفعال من جهة ما يعرض لها من الآفات ، فيبطل مع آفة كل جزء فعله أو يدخله آفة والغشاء الرقيق يستبطن بعضه فيغشي بطون الدماغ إلى الفجوة التي عند الطاق وأما ما وراء ذلك فصلابته تكفيه تغشية الحجاب إياه ، وأما التوريد الذي في بطون الدماغ فليكون للروح النفساني نفوذ في جوهر الدماغ كما في بطونه ، إذ ليس في كل وقت تكون البطون متسعة منفتحة أو الروح قليلاً بحيث تسعه البطون فقط .

فصل في أمراض الرأس الفاعلة للأعراض فيه

يجب أن يعلم إن الأمراض المعدودة كلها تعرض للرأس ولكن غرضنا هاهنا في قولنا الرأس هو الدماغ وحجبه ولسنا نتعرض لأمراض الشعر هاهنا في هذا الموضوع ، فنقول : إنه يعرض للدماغ أنواع سوء المزاجات الثمانية والكائنة مع مادة وهي : إما بخارية وأما ذات قوام .

ويكثر فيه أمراض الرطوبة فإن كل دماغ فيه في أول الخلقة رطوبة فضلية تحتاج إلى أن تتنقى أما في الرحم ، وأما بعده ، فإن لم تُنَقَ عَظُم منها الخطب وكلّها أما في جرم الدماغ وأما في عروقه وأما في حُجُبه .

ويعرض له أمراض التركيب أما في المقدار مثل أن يكون اصغر من الواجب ، أو أعظم من الواجب أو في الشكل مثل أن يكون شكله متغيراً عن المجرى الطبيعي فيعرض من ذلك آفة في أفعاله .
أو تكون مجاريه وأوعيته منسدة ، والسدد أما في البطن المقدم وأما في البطن المؤخر وأما في البطنين ناقصة أو كاملة ، وأما في الأوردة وأما في الشرايين وأما في منابت الأعصاب وأما أن تنخلع أربطة حجبه أو يقع افتراق فيه بين جزأين .
ويعرض له أمراض الإتصال لإنحلال فرد في نفسه ، أو في شرايينه أو حُجُبه أو القحف .
ويعرض له الأورام أما في جوهر الدماغ نفسه أو في غشائه الرقيق أو الثخين أو الشبكة أو الغشاء الخارج وكله عن مادة من أحد الأخلاط الحارة أو الباردة ، أما من الباردة العفنة فليحق بالأورام الحارة والباردة الساكنة تفعل أوراماً هي التي ينبغي أن تسمى باردة ، وكأنك لا تجد من أمراض الدماغ شيئاً إلا راجعاً إلى هذه أو عارضاً من هذه .
وأمراض الدماغ تكون خاصية ، وتكون بالمشاركة وربما عظم الخطب في أمراض المشاركة فيه حتى تصير أمراضاً خاصية قتالة ، فإنه كثيراً ما يندفع في أمراض ذات الجنب والخوانيق مواد خناقة قتالة ، وكثيراً ما تصيبه سكتة قاتلة بسبب أذى في عضو آخر .

في الدلائل التي يجب أن يتعرف منها أحوال الدماغ

فنقول المبادئ التي منها نصير إلى معرفة أحوال الدماغ هي من الأفعال الحسية والأفعال السياسية ، أعني التذكر والتفكر والتصور وقوة الوهم والحدس والأفعال الحركية ، وهي أفعال القوة المحركة للأعضاء بتوسط العضل ، ومن كيفية ما يستفرغ منه من الفضول في قوامه ولونه وطعمه ، أعني حرافته وملوحته ومرارته أو تفهه ، ومن كميته في قلته وكثرته ، أو من احتباسه أصلاً ومن موافقة الأهوية والأطعمة إياه ومخالفتها وأضرارها به ، ومن عظم الرأس وصغره ومن وجود شكله ، المذكورة في باب العظام ، وردائته ومن ثقل الرأس وخفته ، ومن حال ملمس الرأس وحال لونه ولون عروقه ، وما يعرض من القروح والأورام في جلدته ، ومن حال لون العين وعروقها وسلامتها ومرضها وملمسها خاصة في حال النوم واليقظة ، ومن حال الشعر ، في كميته أعني قلته وكثرته

وغلطه ورقته ، وكيفيته أعني شكله في جعودته وسبوطته ، ولونه في سواده وشقرته وصهوبته ورعة قبوله الشيب وبطئه ، وفي ثباته على حال الصحة أو زواله عنها بتشققه أو انتثاره أو تمرطه وسائر أحواله .

ومن حال الرقبة في غلظها ودقتها وسلامتها أو كثرة وقوع الأورام والخنازير فيها ، وقلتهما وكذلك حال اللهاة واللوزتين والأسنان .

ومن حال القوى والأفعال في الأعضاء العصبانية المشركة للدماغ ، وهي مثل الرحم والمعدة والمثانة .

والاستدلال على المشاركة يكون على وجهتين : أحدهما من حال العضو المشارك للدماغ ، فيما يعرض للدماغ على ما عرض للدماغ ، والثاني من حال العضو الذي ألم الدماغ بمشاركته إياه أنه أي عضو هو ،وما الذي به ، وكيف يتأدى إلى الدماغ .

وهذه الاستدلالات قد يستدل منها على ماهو حاضر من الأفعال والأحوال ، وعلى ما يكون ولم يحضر بعد ، مثل ما يستدل من طول الحزن والوحوش على الملنخوليا المطل أو القطرب الواقع عن قرب ، ومن الغضب الذي لا معنى له على صرع أو ملنخوليا حار أو مانيا ومن الضحك بلا سبب على حمق أو على رعونة .

فصل في الاستدلالات المأخوذة من الأفعال النفسانية الحسية والسياسية والحركية والأحلام من جملة السياسية

فنقول هذه الأفعال قد تدخلها الآفة على ما عرف من بطلان أو ضعف أو تشوش مثال ذلك : أما في الحواس فنبدأ بالبصر : فإن البصر تدخله الآفة ، أما بأن يبطل وإما بأن يضعف ، وإما بأن يتشوش فعله ويتغير عن مجراه الطبيعي ، فيتخيل ما ليس له وجود من خارج مثل الخيالات والبق والشعل والدخان وغير ذلك فإن هذه الآفات إذا لم تكن خاصة بالعين استدل منها على آفة في الدماغ ، وقد تدل الخيالات بألوانها ، ولقائل أن يقول أن الخيال الأبيض كيف يدل، منها على البلغم الغالب وهو بارد ، وأنتم نسبتم التشوش إلى الحر ، فنقول ذلك بحسب المزاج لا بحسب أعتراض المواد للقوة الصحية الكاملة الحرارة الغريزية .

وأما في السمع فمثل أن يضعف فلا يسمع إلا القريب الجهير أو يتشوش فيسمع ما ليس له وجود من خارج ، مثل الدوي الشبيه بخرير الماء ، أو بضرب المطارق ، أو بصوت الطبول ، أو بكشكشة أوراق الشجر أو حفيف الرياح أو غير ذلك ، فيستدل بذلك أما على مزاج يابس حاضر في ناحية

الوسط من الدماغ أو على رياح وأبخرة محتبسة فيه ، أو صاعدة إليه وغير ذلك مما يدل عليه ، وأما أن يبطل أصلاً والضعف والبطلان لكثرة البرد والذي يسمع كأنه يسمع من بعيد ، فلرطوبة . وأما في الشم ، فبأن يعدم أو يضعف أو يتشوش فيحس بروائح ليس لها وجود من خارج منتنة أو غير منتنة فيدل في الأكثر على خلط محتبس في مقدم الدماغ ، يفعله إن لم يكن شيئاً خاصاً بالخيشوم .

وأما الذوق واللمس فقد يجريان هذا المجرى إلا أن تغيرهما عن المجرى الطبيعي في الأكثر يدل على فساد خاص في آلاتها القريبة ، وفي الأقل على مشاركة من الدماغ خصوصاً مثل ما إذا كان عاماً كخدر جميع البدن . وقد تشترك الحواس في نوع من الضعف والقوة يدل على حالة في الدماغ دائمة وهي التكدير والصفاء ، وليس مع كل ضعف كدورة فقد يكون ضعفاً مع الصفاء مثل أن يكون الإنسان يبصر الشيء القريب والقليل الشعاع إبصاراً جيداً صافياً ، ويرى الأشياء الصغيرة منها ثم إذا بعدت أو كثر شعاعها عجز عن إدراكها فإذن التكدير والصفاء قد يكونان معاً في الضعف والصفاء قد يكون لا محالة مع القوة ، لكن التكدير دائماً تدل على مادة ، والصفاء على يبوسة . وهذه التكدير ربما استحكمت بغتة فكان منها السدر وهو يدل على مادة بخارية في عروق الدماغ والشبكة ، والحكم في الاستدلالات عن هذه الآفات إن ما يجري مجرى التشوش ، فهو في أكثر الأمر تابع لمزاج حار يابس . وما يجري مجرى النقصان والضعف فهو في الأكثر تابع لبرد ، إلا أن يكون مع شدة ظهور فساد وسقوط قوة ، ربما كان مع ذلك من الحرارة ولكن الحرارة ملائمة للقوى بالقياس إلى البرد . فما لم يعظم استضرار المزاج به وفساده ، لم يورد في القوى نقصاناً فيجب أن لا يعول حينئذ على هذا الدليل ، بل تتوقع الدلائل الأخرى المذكورة لكل مزاج من المزاجين ، والبطلان قد يدل على تأكد أسباب النقصان إن كان لسبب دماغي ، ولم يكن لسبب آفات في الآلات من فساد وانقطاع وسدة ، وبالجملة زوال عن صلوحها للأداء أو لسبب في العضو الحساس نفسه ، ومن الأعضاء الحساسة ما هو شديد القرب من الدماغ فيقل أن لا تكون الآفة فيهما مشتركة مثل السمع والشم ، فأكثر آفاته التي لا تزول بتنقية وتعديل مزاج يكون من الدماغ . ولذلك ما تكون سائر الحواس إذا تأذت بمحسوساتها دلت على آفة فيها من حر أو يبس لم يبلغا أن يسقط

القوة والسمع ثم الشم وفي الأكثر يدل على أن ذلك المزاج في الدماغ .

وأما الأفعال السياسية : فإن قوة الوهم والحدس دالة على قوة مزاج الدماغ بأسره ، وضعفه دال على آفة فيه من فوقه إلى أن يتبين أي الأفعال الأخرى اختل ، فمنها فساد قوة الخيال والتصور وآفتها ، فإن هذه القوة إذا كانت قوية أعانت في الدلالة على صحة مقدم الدماغ ، وهذه القوة إنما تكون قوية إذا كان الإنسان قادراً على جودة تحفظ صور المحسوسات مثل الأشكال والنقوش والحلو والمذاقات والأصوات والنغم وغيرها ، فإن من الناس من يكون له في هذا الباب قوة تامة حتى إن الفاضل من المهندسين ينظر في الشكل المخطوط نظرة واحدة فترتسم في نفسه صورته ويقضي المسألة إلى آخرها مستغنياً عن معودة النظر في الشكل .

وكذلك حال قوم بالقياس إلى النغم وحال قوم بالقياس إلى المذاقات وغير ذلك ، وبهذا الباب تتعلق جودة تعرف النبض ، فإنه يحتاج إلى خيال قوي ترتسم به في النفس قوى الملموسات ، وهذه القوة إذا عرضت لها الآفة .

أما بطلان الفعل فلا تقوى فيه صورة خيال محسوس بعد زواله عن النسبة التي تكون بينه وبين الحاسة ، حتى يحس بها فإما ضعف وإما نقصان وإما تغير عن المجرى الطبيعي بأن يتخيل ما ليس موجوداً ، دل ضعفه وتعذره وبطلان فعله في الأكثر على إفراط برد أو يبس في مقدم الدماغ أو رطوبة . والبرد هو السبب بالذات والآخران سببان بالعرض لأنهما يجلبانه ، ودل تغير فعله وتشويشه على فضل حرارة وهذا كله بحسب أكثر الأمور وعلى نحو ما قيل في القوى الحساسة ، وقد يعرض هذا المرض لأصحاء العقل حتى تكون معرفتهم بالجميل والقبيح تامة وكلامهم مع الناس صحيحاً ، ولكنهم يتخيلون قوماً حضوراً ليسوا بموجودين خارجاً ، ويتخيلون أصوات طبالين وغير ذلك كما حكى " جالينوس " أنه كان عرض ل روفلس الطبيب ومنها فساد في قوة الفكر والتخيل : أما بطلان ويسمى هذا ذهاب العقل ، وإما ضعف ويسمى حمقاً ومبدؤهما برد مقدم الدماغ أو يبوسته أو رطوبته وذلك في الأكثر على ما قيل ، وإما تغير وتشوش حتى تكون فكرته في ما ليس . ويستصوب غير الصواب ويسمى : اختلاط العقل فيدل: " إما على ورم وإما على مادة صفراوية حارة يابسة ، وهو الجنون السبعي ويكن اختلاطه مع شرارة ، وإما على مادة سوداوية وهو الملنخوليا ويكون اختلاطه مع سوء

ظن ومع فكر بلا تحصيل ، والمائل من تلك الأخلاق الى الجبن أدل على البرد والمائل منها الى الآجتراء والغضب أدل على الحر وبحسب الفروق التي بينها ونحن نوردها بعد ، وبالجملة إذا تحركت الأفكار حركات كثيرة وتشوشت وتفننت فهناك حرارة ، وقد يقع أيضاً تشوش الفكر في أمراض باردة إذا لم تخل عن حرارة مثل اختلاط العقل في ليثرغس ومنها آفة في قوة الذكر إما بأن يضعب وإما بأن يبطل كما حكى " جالينوس " ، أن وباء حدث بناحية الحبشة كان عرض لهم بسبب جيف كثيرة بقيت بعد ملحمة بها شديدة ، فصار ذلك الوباء الى بلاد يونان فعرض لهم أن وقع بسببه من النسيان ما نسي له الإنسان أسم نفسه وأبيه ، وأكثر ما يعرض من الضعف في الفكر ، يعرض لفساد في مؤخر الدماغ من برد أو رطوبة أو يبس ويتشوش فيقع له أنه يذكر ما لم يكن له به عهد ، فيدل على مزاج حار مع مادة أو بلا مادة ، والمادة اليابسة أولى الأفاعيل ربما يكون لغلبة البرد إما على جرم الدماغ ، فيكون مما يستولى على الأيام أو على تجاويفه وقد يكون لبرد مع رطوبة ، وربما جلبه اليبس ، وكذلك ضعفها (ضعف الأفاعيل) وأما تغيُّرها فلورم أو مزاج صفراوي أو سوداوي ، أو جسم مجرد والإستدلال من أحوال الأحلام مما يليق أن يضاف الى هذا الموضع ، فإن كثرة رؤية الأشياء الصفر والحراة تدل على غلبة الصفراء وكذلك كثرة رؤية أشياء تناسب مزاجاً ولا يحتاج الى تعديدها ، والأحلام المتشوشة تدل على حرارة ويبوسة ، ولذلك تنذر بأمراض حارة دماغية وكذلك الأحلام المفزعة والتي لا تذكر تدل على برد ورطوبة في الأكثر ، ورؤية الأشياء كما هي تدل على ذلك .

فصل في الإستدلال من الأفعال الحركية وما يشبهها من النوم واليقظة

وأما الدلائل المأخوذة من جنس الأفعال الحركية ، فأما بطلانها وضعفها فيدل على رطوبة فضلية في آلتها رقيقة كثيرة ويدل أي عضة على آفة في الدماغ إلا أن الأخص به ما كان في جميع البدن كالسكتة ، أو في شيقٍّ واحد كالفالج واللقوة الرخوة ، وربما اتفقا أعني البطلان والضعف من حر الدماغ أو يبسه في نفسه أو في شيء من الأعصاب النابتة عنه ، لكن ذلك يكون بعد أمراض كثيرة ، وقليلاً قليلاً وعلى مَرِّ الأيام . والذي في عضو واحد كالاسترخاء ونحو ذلك ، فربما كان لأمراض خاصة بذلك العضو

وربما كان عن اندفاع فضل من الدماغ إليه . وأما تغيرها فإن كان بغتة دل على رطوبة أيضاً وأن كان قليلاً فعلى يبوسة ، أعني في الآلات . والذي يخص الدماغ فمثل تغير حركات المصروع بالصرع الذي هو تشنج عام ، ولا يكون إلا عن رطوبة ، لأنه كائن دفعة أو بمشاركة عضو آخر بحسب ما تبين ، ويدل على سدة غير كاملة ومثل رعشة الرأس ،فإن جميع هذه يدل على مادة غليظة في ذلك الجانب من الدماغ أو ضعف أو يبوسة إن كان بعد أمراض سبقت وكان حدوثه قليلاً..

ومما يناسب هذا الباب الإستدلال من حال النوم واليقظة : فأعلم أن النوم دائماً تابع لسوء مزاج راطب مُرخ أو بارد مجمد لحركة القوى الحسية ، أو لشدة تحلل من الروح النفساني لفرط الحركة أو الإندفاع الى الباطن لهضم المادة ، ويندفع معها الروح النفساني بالإتباع كما يكون بعد الطعام ، فما لم يجر من النوم على المجرى الطبيعي ولم يتبع تعباً وحركة ، فسببه رطوبة أو جمود فإن لم تقع الأسباب المجمدة ولم تدل الدلائل عل إفراط برد مما سنذكره ، فسببه الرطوبة ثم ليس كل رطوبة توجب نوماً ، فإن المشايخ مع رطوبة أمزجتهم ، يطول سهرهم ، ويرى " جالينوس" أن سبب ذلك من كيفية رطوباتهم البورقية ، فإنها تسهر بأذاها للدماغ ، إلا أن اليبوسة على كل حال مسهرة لا محالة .

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* كتاب دور العرب والمسلمين في العلوم العصبيه (500-1516م)
الاستاذ الدكتور أشرف الكردي – عمان – الاردن.
صادر عن مركز الابحاث.
مستشفى الملك فيصل التخصصي – المملكة العربية السعودية.
اقتباس الدكتور وليد سرحان – نائب رئيس تحرير المجلة .
عمان ص_ب 54121 الرمز البريدي 11937
Email: Sarhan 34@wanadoo.jo

disturbing because it might reflect serious psychosocial changes in Arab societies, problems in our understanding of mental disorders, or, indeed, in the DSM-IV itself.

Many questions remain, however, that highlight the need to continue research in this patient population rather than relying on the extrapolation of data from trials involving adults.[5]

Depressed children need a sensible multimodal approach, in-depth search into family circumstances, life style and nutrition, with more emphasis on non-medical treatment.

Competing interests:

None declared.

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Ehab Hegazi
Consultant Psychiatrist
Cambridgeshire & Peterborough Mental Health Trust (UK)
Email Hegazi@doctors.org.uk

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Hamdy Moselhy
Consultant Psychiatrist, Birmingham, UK

A global Controversy

Re: An assessment of the use of Selective Serotonin Reuptake Inhibitors (SSRIs) in childhood and adolescent depressive disorders.

This is a well-presented review in which Jumai'an and Barringer attempt to provide answers for some difficult questions.

The expanding use of antidepressants in youth has been the subject of numerous studies and some concerns in recent years.[1] Results so far are based on populations and there is no way of telling who may be sensitive to an SSRI's positive or adverse effects.

The authors discuss the occurrence of high relapse rate, discontinuation due to side effects, and a high manic conversion hazard. The long-term effects of prescribing SSRIs to children are not known yet. Recent research suggests that they also stimulate neurogenesis in the hippocampus.[2] Children are actively learning and their brains are reorganising at a high pace. What effect will more serotonin and new brain cells in the hippocampus have?

With regards to suicidal behaviour, it is extremely difficult to prove whether SSRIs increase the risk since suicide is already a significant risk in those who are depressed. Controlled trials typi cally exclude patients considered at high risk for suicide, such as those with a history of suicide attempts. Furthermore, reliance on published studies alone to guide treatment of childhood depression could be misleading.

The debate on effectiveness and safety of antidepressants' use by adolescents has now widened to include the very concept of childhood depression. Sami Timimi argues that unhappiness among children seems to be rising, but labelling it as depression and prescribing antidepressants is ineffective and possibly harmful.[3] He suggests that medicalisation of children's unhappiness is hindering our ability to focus on the underlying reasons and respond effectively to the problem.

Studies on Arab children are few, at least those written in English. A study conducted in the UAE found that 43% of children under 18 who visited their primary care doctors were eligible for a psychiatric diagnosis according to the DSM-IV criteria.[4] This figure is rather

or valid research instrument. It is important to know as other studies[1,3] showed that schizophrenia and depression are the most common psychiatric diagnoses. Author reported that total surface area of burn was higher 79% compared with Haddad et al[1] 48%, and death rate was 79% compared with only one third in Scully and Hutcherson study [3] with no explanation for this difference. It is likely that there is a correlation between the surface area of burn and death rate or possibly there is other co-morbidity, or finally it is the facility available in the unit compared with other similar units.

Generally the precipitating life events for women who attempt suicide tend to be losses or crises in significant social or family relationship[4]. However, the high suicide rate amongst young Asian women was due to cultural pressures, conservative parental values and traditions such as arranged marriage which may clash with the wishes and expectations of young women themselves[5]. The Guardian newspaper, September 14, 2004 reported a widespread pattern of suicide including self-immolation as the only way out for Afghani women who suffer physical violence and sexual abuse of their families. I think this should stimulate us to research this phenomenon in the Arabic and Muslim community, looking for the main motive and dynamics of using this tragic method of suicide and the role of media in that. Suicide prevention strategies and programmes will depend on identification of reliable calculated risk factors, which will need to be extracted from well-planned studies with sound method and statistics. In addition prevention strategies must ensure access to integrated mental health services with effective diagnosis, treatment and support for the patients and carers. Finally, this study has certain limitations. First the sample size is small making it difficult to generalise from these results. Secondly, it was retrospective in design and therefore vulnerable to bias related to the subject's recall, both because of differences in subjects' ability to remember events, and because the severe pain could affect their ability to recall events accurately.

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I agree with the general recommendation of this current study. Certainly, creating a general public awareness that DSB is a signal for distress is extremely important in order to formulate a realistically workable preventive policy.

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Ahmed Shoka, Consultant Psychiatrist, Essex, UK
Correspondence: E-mail: ashoka@doctors.org.uk

Deliberate Self Burning

I was interested to read the article by, 2006 [1] in this Qissue, describing the deliberate self-burn in Jordan. The study touches an interesting and important topic that has not received much attention. The author provided data from a retrospective study that spans over 5 years and covers 36 subjects, which contributes to data biases. Suicide is a major public health issue in the whole world. Incidence of deaths from burning varies among countries, and even communities within the same country. The two papers studied suicides by burning in the same unit in Jordan [1, 2] showed that the average number of self-burning is nearly 7 persons per year (20 patients in 3 years and 36 in 5 years) with no change in more than 5 years. Although the population in Jordan has changed to a large extent in this time, the authors did not give explanation for that. Additionally, the reader will be interested to know what percentage of self-burning compared with the national figure of suicide by other methods. This will help to identify the changes of suicide pattern and help planning strategy to prevent it. Although the author argued that adjustment disorders were the commonest mental illness among this group, it is not clear whether this diagnosis was based on a clinical diagnosis

Deliberate self-burning in Jordan

The Editor

This is an interesting study and raises many important issues. It would be also interesting to try to understand more about the cultural background of this phenomenon. Sati is described as a Hindu custom in India in which the widow was burnt to ashes on her dead husband's pyre. Basically Sati was believed to be a voluntary act with so many different theories about its origin; one theory postulates that Sati was introduced to prevent wives from poisoning their wealthy husbands and marry their real lovers. This custom was outlawed in 1829 by Raja Ram Mohan. The study raises some issues in the demographic characteristics of the 36 subjects followed up over a reasonably long period of 5 years; the average for both males and females was 30 years which may reflect that self burning in this sample was an Adult Behaviour?, also the median total body surface area burnt was quite high (60%) reflecting a high degree of intent seriousness which was echoed in the 79% mortality rate. It is rather alarming to find self burning by kerosene, common in Jordan and also nearly 14% of suicide is caused by fire burns and scalds. One couldn't stop himself from trying to link this horrific act of self inflicting maximum pain and punishment with other socio-cultural issues which have been kept burning underneath the surface for quite sometime. Although the paper acknowledged that the preponderance of women in the Jordanian sample is consistent with a typical worldwide pattern; it didn't offer plausible explanation for that especially when 22.2% of the sample didn't have any form of mental illness. I am aware of another similar paper by Haberal and Bilgin from Turkey studying 16 cases of self inflicted burns over a period of 9 years. This paper has some interesting results: male preponderance, psychiatric illness was found in 31% of the sample. The paper also commented on how self-burning as a method of suicide is relatively common in Israel (77%).

In another study by Haider and Haider from Pakistan, some more explanations for the gender difference in self burning behaviour, were given: females have no systematic career system, no social or economic freedom and have to face discrimination. There may be some degree of concealment of real reasons and presentation of family problems, conflicts and domestic violence. Despite all these possible explanations, one would need to be aware also of unreported psychological and symptoms of mental illness due to stigma and its impact on help seeking behaviour.

One important recommendation to make in this context is that DSB (deliberate self burning) must be considered as primarily a medical concern rather than a police inquiry matter.

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**** Correspondence***
Lt. Col. Dr. Amjad Jumai'an (MB.BS, JBPsych, Diploma in Child and Adolescent Psychiatry/London, DCP, Post-graduate certificate in child and family mental health/Birmingham, UK. MRCPsych (UK).
Senior Specialist Psychiatrist& Child Psychiatrist.
The Royal Medical Services of Jordan. Armed Forces of Jordan
Amjadj75@hotmail.com
Charles R. Barringer, Doctor of Psychology (Psy.D.), Post-graduate certificates in Community Mental Health, Primary Care Clinical Psychology, Behavioral Interventions with HIV/AIDS, Chicago, Illinois, USA. Chief, Staff Counseling Unit, United Nations Mission in Liberia.
barringer@un.org, crbarringer@msn.com

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الملخص:

من واجب القائمين على معالجة الإكتئاب عند الأطفال والمراهقين تطوير طـرق آمنـة وفاعلة للعلاج وكذلك التعامل مع هذه الحالات بالجدية والإهتمام البالغين. بـالرغم مـن الإستعمال الواسع والواعد لمثبطات إعادة امتصاص السيروتونين في عـلاج الإكتئـاب النفسي عند الصغار ، إلاّ أن هناك العديد من الإختلافات في نتائج الابحاث حول فاعليـة هذا العلاج في حالات اكتئاب الصغار في معظم دول العالم.

إستجابة لهذه الإختلافات والتباينات في نتائج الدراسات حول أهمية ومخاطر إستعمال هذا العلاج سوف نقوم بمراجعة واستعراض العديد من الدراسات التي نشرت حـول أهميـة ومحاذير إستعمال هذا الجيل الجديد من مضادّات الإكتئاب في معالجة الإكتئاب النفسـي عند الأطفال .

وفي النهاية سوف نقوم بعرض لآخر التوصيات لمعالجة حالات الإكتئاب عند الأطفـال والمراهقين.

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weighed in on the safety and efficacy of using SSRIs with children and adolescents. The Report concluded that the controversy and mixed results regarding the efficacy of SSRIs in youth depression remains, however, no causal relationship between SSRIs and increased pediatric suicides has been established. The report added that there is a pressing need for properly designed pragmatic studies on the use of antidepressant with children and adolescents. Report 10 further stated that antidepressants including SSRIs should continue to be available and prescribed under prudent clinical judgment [41].

Despite the valid concerns and risks associated with the use of any antidepressant, the past decade has shown a marked reduction in the rate of suicide among adolescents. This decline clearly coincides with use of SSRIs suggesting that any recommendations for reducing the use of SSRIs should be carefully weighed against the potential benefits [42]. The wide use the new generation of antidepressants (SSRIs & non-SSRIs) coincides with a drop in the suicide rates both between and within countries where SSRIs were prescribed. Preliminary analysis indicates that positive results are due to a combination of factors including the efficacy of antidepressant medications, better quality of care, adherence to treatment, and finally the minimal overdose risks found with SSRIs and non-SSRIs [43].

The treatment of depression in youth, as well as in adults, has improved markedly with each succeeding decade. Each new generation of medications for the treatment of mental illness, whether novel anti-psychotics or the new antidepressants, is greeted by enthusiasm followed by caution as research teases apart the good from the bad. But with more and better research, guidelines improve leading to long term benefits for our patients. Just as it is morally and professionally incumbent on the research community to continue to ferret out risk factors and develop safe prescription guidelines, it is equally incumbent on clinicians to strive for the safest and most effective protocols to treat depressive disorders. Finally, health care professionals working with children and adolescents need to engage in ongoing training to improve our efforts at early detection and intervention.

On 28/09/2005, to assure safe use of antidepressants, the National Institute for Health and Clinical Excellence (NICE) and the National Collaborating Centre for Mental Health in the United Kingdom launched a set of clinical guidelines on the treatment and management of depression in children and young people. The guidelines recommend the following [39]:

1. *Children and young people with moderate to severe depression should be offered as a first line of treatment, a specific psychological therapy (cognitive behavioural therapy, interpersonal therapy or family therapy of at least 3 months duration).*
2. *Antidepressant medications should not be offered to children or young people with moderate to severe depression except in combination with psychological therapy and should not be offered at all to children with mild depression.*
3. *Health care professionals in primary care, schools and other relevant community settings should be trained to detect symptoms of depression and to assess children and young people who may be at risk of depression.*
4. *Attention should be paid to the possibility that the parents may have their own psychiatric problems, including depression, which needs to be treated in parallel if the child's mental health is to improve.*

Discussion

In light of the prevalence and risks associated with childhood and adolescent depressive disorders, it is extremely important that clinicians worldwide continue to thoroughly assess for depression in youth and seek to develop treatment protocols that reduce the risk of suicide and alleviate depressive symptoms.

For the time being, clinicians are advised to be cautious with their interpretation of the research on the use of antidepressants for children and adolescents. Variations in trial methodology and variations in drug/placebo responses within the same trial should raise questions about the conclusions or claims made in many studies [40]. Consistent with this precaution, and in response to concerns raised by the FDA in the United States and the Medicines and Health Products Regulatory Agency (MHRA) in the United Kingdom, the U.S. Council on Scientific Affairs in Report 10

adolescents should continue to be part of a comprehensive treatment program that includes a thorough assessment of risks and functioning, and a course of psychotherapy. Parents or primary caregivers should be informed of the serious nature of MDD and the risks if left untreated. They should also be encouraged to avail themselves of supportive therapy to address the impact of child's depression on the family system. Finally, an antidepressant may be introduced into the treatment protocol only if clearly warranted and if the child or teen can be closely monitored for high risk side effects such as mania or increased suicidal ideation. Close monitoring has the added benefit of increasing the likelihood of success as compliance rates tend to increase when patients are engaged with the treating mental health clinicians.

The American Academy of Child and Adolescent Psychiatry (AACAP), the National Institute for Health and Clinical Excellence (NICE), and the National Collaborating Centre for Mental Health (NCCMH) in the United Kingdom have provided clear guidelines for the treatment of child and adolescent depression. In 1998, the AACAP summarized the practice parameters for the assessment and treatment of children and adolescents with depressive disorders in the following recommendations [38]:

1. *The treatment relationship with the patient and family should begin in earnest with the first contact. The quality of this first contact is crucial for successful outcomes.*
2. *Early detection and intervention is effective in ameliorating poor psychosocial outcomes.*
3. *Psychotherapy is an appropriate treatment for all children and adolescents with depressive disorders.*
4. *Antidepressants are indicated for youth with non-rapid-cycling bipolar or psychotic depression and those with chronic or recurrent depression, particularly where symptoms fail to respond to an adequate trial of psychotherapy.*
5. *For patients requiring pharmacotherapy, SSRIs are the initial antidepressant of choice. However, in patients with comorbidities, alternative agents should also be considered.*
6. *Continuing treatment after the acute phase is considered essential. Long-term maintenance may be necessary in some cases.*

reviewed seven randomized controlled trials analyzing the newer antidepressants (SSRIs and non-SSRIs). They found that study methods lacked transparency and placebo effects skewed the end results. They also pointed out that pharmaceutical companies funded at least three of the four studies and failed to disclose increased suicidal activity [34]. Inconsistent results in published and unpublished trials and even omission of data from published trials, has been misleading making treatment recommendations very difficult [33].

While CSM supported the use of fluoxetine, the British National Formulary (BNF) took a more conservative stance toward the use of SSRIs in treating youth depression. The most recent BNF does not endorse the use of citalopram, escitalopram, paroxetine, fluvoxamine, sertraline, or fluoxetine, for treating children and adolescents less than 18 years of age [35]. In contrast, the U.S. Food and Drug Administration (FDA) cautiously supported the use of SSRIs, but recommended the strongest possible label warnings to caution users about the risk of suicide and other conditions [36].

Fluoxetine is the only SSRI that has demonstrated efficacy in two placebo-controlled randomized trials in youth depression and it continues to have a better risk/benefit ratio compared to other SSRIs [33]. It appears to be well tolerated and effective for acute treatment of childhood and adolescent depression as suggested by the following data [37]:

NNT = 8.33 (The number of patients treated for one to benefit)
0.65(improved on new antidepressant)
0.53(improved on placebo)
Absolute improvement =

$$0.65 - 0.53 = 0.12$$

NNT = 1/0.12 (one absolute improvement) = 8.33]

As we have seen, there is considerable research going on at this time, but results continue to be mixed. For now, fluoxetine is the only SSRI approved for pharmacological treatment of MDD in pediatric practice by the FDA and CSM. Furthermore, citalopram and sertraline, while having a less favorable risk/benefit profile, have proven to be superior to placebo for acute depression and may be considered safe and effective [32].

Treatment Guidelines

There is sufficient evidence now that use of fluoxetine, sertraline, and citalopram for children and

indicates that the risk of suicide is even higher among juvenile patients with untreated depression [24]. A recent controlled forensic database study on the use of SSRIs in Sweden failed to confirm the hypothesis that SSRIs lead to an increased risk of suicide [25]. Moreover, a study conducted in the United States found that antidepressants had no statistically significant effect on the likelihood of suicidal attempts following adjustment for treatment allocation and controlling for other variables including female gender, younger age of onset, severity of the illness, and living in the Midwest or Western states [26]. Added to that, Simon et al (2006); found that the risk of suicide during the early treatment phase of antidepressant treatment was 1/3000 treatment episodes and the risk of suicidal attempts leading to hospitalization was 1/1000. Furthermore, they concluded that there was no significant increase in suicidal risk after commencing treatment with new generation of antidepressants and the risk of suicidal death remained satisfactory constant throughout the first six months of treatment [27].

Concerns and contradictory findings with regards to relapse and discontinuation rates, as well as reports of mania and suicide associated with SSRIs, prompted the UK Committee on Safety of Medicines (CSM) to ban all SSRIs in 2003 except fluoxetine for use in children less than 18 years of age [28]. Furthermore, the manufacturer of venlafaxine issued strong warnings against its use [29], and GlaxoSmith-Kline issued a letter to all medical practitioners in the United Kingdom discouraging the use of paroxetine in patients less than 18 years because of increased rates of suicidality and hostility [30].

Since the 2003 CSM report, sertraline has been examined in two randomized controlled trials which demonstrated that it may also be an effective and well tolerated short term treatment for children and adolescents with MDD [30]. A review published in 2005 found fluoxetine, citalopram and sertraline were superior to placebo on primary outcome measures in controlled acute treatment trials [32]. However, data from unpublished trials show that sertraline and paroxetine have an equivocal or weak benefit profile, and citalopram and venlafaxine have an unfavorable benefit profile[33]. Adding to the mixed results of published and unpublished trials, Jureidini and colleagues in 2005

als. Indeed, treatment with antidepressants is associated with high manic conversion hazards among youth aged 10 – 14 years. The hazard ratio is 2.1 for SSRIs (P<.001), 3.8 for other antidepressants (P< .001), and 3.9 for TCAs (P = .002) [21].

In the last two years there have also been growing concerns over an increase in the incidence of suicidal thoughts, attempts, and consequently suicides among youth receiving SSRIs. The literature refers to three possible mechanisms for how SSRIs may precipitate an increase in suicidal ideation and gestures. First, in a small percentage of cases, an SSRI may induce akathisia, a movement disorder characterized by intense involuntary restlessness. The restlessness and an underlying feeling of malaise may be subjectively experienced as so dysphoric that a young, confused, and vulnerable patient may consider suicide, rather than endure this distressing state [22, 23]. A second explanation can be found in the now classical phenomenon associated with recovery from depression; the risk of suicide increases during the early phase of recovery, when depressive symptoms begin to diminish. Since the physical symptoms improve before the depressed mood resolves, a patient has more energy while still struggling with negative cognitions. The negative thoughts may be such that they motivate the patient to act on their feelings of hopelessness and despair. The risk of this phenomenon is greatest a week to ten days after commencing treatment, but usually resolves by the second and third week of treatment [22]. The third explanation for an increased risk of suicide with SSRIs refers back to the evidence of induced mania for some youth between 10 to14 years of age. Mania, a state characterized by unstable mood and impulsivity, may precipitate dramatic gestures and a greater risk of suicidal impulses [23]. While these risks should be taken very seriously, there is good evidence that they can be minimized through careful risk assessment of the patient prior to and during treatment, and close monitoring during the first two to three weeks of treatment. Any indication of the onset of mania or increased suicidal ideation should be met by gradual dose reduction and discontinuation of the prescribed SSRI.

Even though the risk of suicide is high in some young patients, data from psychological autopsy studies

maladjustment, and interpersonal difficulties [12]. Finally, research indicates that regardless of comorbidity during childhood, relapse rates in adulthood are high [9].

Antidepressants

Starting in the early 1990's the use of SSRIs rapidly increased without sufficient data from randomized controlled trials. In 1992, TCAs were being prescribed to nine times more patients than SSRIs, but by 2001 twice as many children received SSRIs as TCAs [13]. In 2003 the CSM estimated that in the United Kingdom half of the 40,000 under 18 children being treated for depression were prescribed one of the new [contraindicated] antidepressant medications [14].

The expanding use of SSRIs was aided by confirmed doubts over the efficacy of TCAs. A 1995 systematic review of TCA use found they were no more effective than placebo in treating childhood and adolescent depression [15] and in the year 2003 another systematic review concluded that TCAs may be useful in treating adolescents, but have little benefit for children [16]. In addition, it became well documented that TCAs presented significant safety problems including cardiotoxicity, risk of lethal over dose, and anticholinergic side effects. Adherence with TCAs was often poor due to such uncomfortable side-effects. In contrast, the adverse side-effects with SSRIs are usually mild, manageable, and seldom require discontinuation of treatment [17]. This is an important concern for acceptance and long-term compliance by patients and families. The rate of discontinuation due to SSRI side effects is only between five and eight percent [18], and a study comparing paroxetine (SSRI), imipramine (TCA), and placebo found a favorably low discontinuation rate of 10%, 32% and 7% respectively [19].

SSRIs have proven to be beneficial and well tolerated in short term efficacy trials with young adolescents and children as young as 7 years of age [18, 19]. Long term results, however, are more mixed. In one of the largest trials conducted in 1998, the relapse rate with an SSRI was found to be as high as forty percent during a 12 month period, a higher rate than in adults[20]. Moreover, the effects of long term exposure have not been systematically evaluated. It is also documented that antidepressant drug therapy can precipitate mania in vulnerable individuals

Prevalence and Course of Depressive Disorders in Youth

For many years health care professionals thought depression was uncommon in youth and believed that children did not suffer from depression. Depression in children was under-reported because medical practitioners without specialized training in mental health failed to recognize depression in children, or focused on other considerations when presented with a depressed child [1].

Statistics report prevalence rates of major depressive disorder at 2% in children and 4 % - 8 % in Adolescents [2, 3]. During childhood, boys and girls are affected almost equally [2, 4, 5, 6], whereas among adolescents, the male to female ratio is around 1:2 [2]. As the capacity to accurately identify depression improved, it became evident that it is actually a common debilitating disorder. It is considered the fourth leading cause of disability around the world [7], and suicide is now the third leading cause of death in adolescents [8].

Several studies have confirmed that depressive disorders present similarly across all age groups [9,10, 11]. However, it is important to keep in mind that children may not have the vocabulary to describe their feelings in terms consistent with formal diagnostic criteria. Children with depression are more likely to present with somatic symptoms, separation anxiety and behavioral changes. Children who develop psychotic depression are more likely than adults to report hallucinations, while older adolescents are more likely to report delusions. This difference is partly a function of the fact that hallucinations require less advanced cognitive functioning than delusions [4]. MDD and dysthymic disorder among children are also likely to present along with other psychiatric disorders including anxiety and disruptive disorders[2].

Long term follow up studies of adolescent onset of depression confirm an increased risk of major depression in adulthood and a significant degree of continuity, specificity, and potential morbidity for suicide into adult life. According to one study, only thirty seven percent of adolescents with major depressive disorder did not experience MDD in adulthood, versus 69% of the control participants[11]. The evidence is quite strong that youth depression is associated with an increased risk of adult suicidality, long term

frequency of treatment discontinuation, clinicians increasingly turned to and preferred the class of SSRIs. Despite insufficient guidance or data from randomized controlled trials, the use of SSRIs for pediatric depression increased dramatically in the early 1990's. While the overall rate of youth suicide did show a remarkable drop in the last ten years, in the last two years the incidence of suicidal thoughts, suicidal attempts, and suicides among children and adolescents increased, thus fueling controversy over the use of SSRIs.

While there are ongoing studies to evaluate the safety and effectiveness of SSRIs for youth, the authors believe it is imperative that clinicians and other mental health professionals have access to periodic assessments to inform the safe and appropriate choice of antidepressants. The controversy, as well as the guidelines, for the safe and effective use of SSRIs will be discussed. As of this assessment, fluoxetine has the most favorable risk-benefit profile compared to other SSRIs and non-SSRIs, and it is the only SSRI approved for pharmacological treatment of MDD in pediatric practice by the Food and Drug Administration (FDA) in the United States, and the Committee on Safety of Medicine (CSM) in England. In addition, Citalopram and Sertraline have proven to be superior to placebo in controlled treatment trials of acute depression and may also be considered effective and safe with close monitoring during early stages of recovery.

Despite the drawbacks and controversy over the use of antidepressants, including certain SSRIs, the authors present ample evidence that pharmacological treatment for pediatric MDD should continue to be part of a holistic, comprehensive treatment program. The research discussed in this paper demonstrates that the risk of suicide is much less when patients receive and comply with treatment. To reduce risks associated with SSRIs, prescribing clinicians should warn against the possible risk of suicide, and monitor their patients closely in the early stages of treatment. Depression is a serious life-threatening condition. It is incumbent on clinicians who work with children and their families to remain abreast of current research and treatment guidelines, and to responsibly combine SSRIs with psychotherapy.

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Review Article

An assessment of the use of selective serotonin reuptake inhibitors in childhood and adolescent depressive disorders.

Amjad Jumai'an , Charles R. Barringer

تقييم استعمال مثبطات أعادة امتصاص السيروتونين في معالجة الأكتئاب النفسي عند الأطفال والمراهقين

أمجد جميعان- شارلز بارنجر

Abstract

Depression in children and adolescents warrants serious consideration. It is incumbent on clinicians to develop safe, effective treatment protocols for this painful and debilitating condition. While the use of selective serotonin re-uptake inhibitors (SSRI) in the treatment of depression is promising, it is also an area of controversy in most parts of the world. In response to the controversy and the need for treatment, this paper assesses the current status of the research and recommendations for using SSRIs. Toward this end, the paper reviews relevant literature to determine the prevalence and risks associated with major depressive disorder (MDD) among youth. The paper then summarizes the research on SSRIs and identifies which ones are safe, effective, supported by research, and approved by the medical establishment. Finally, a set of guidelines for treating youth depression is offered, one that combines approved SSRIs and psychotherapy.

Introduction

Major depressive disorder (MDD) is a serious debilitating disorder in children and adolescents. It is associated with impairment in school performance, social relationships, emotional development and an increased risk of suicide. It is more common than we think, often recurrent, and it tends to continue into adulthood if untreated.

In the last few years, controversy has developed over the use of antidepressants, including selective serotonin re-uptake inhibitors (SSRI). For many years tricyclic antidepressants (TCAs) were used to treat depression in children and adolescents. However, because of mounting reports on the lack of efficacy, poor side effect profiles, and a high

Table 1 Characteristics of the Patients

	Number	%	Mean	Median	Range
Male	35	62.5			
Female	21	37.5			
Single	47	83.9			
Married	6	10.7			
Divorced	3	5.4			
Caucasian	33	58.9			
Asian	15	26.8			
Afro-Caribbean	8	14.3			
Unemployed	46	82			
Family History of Depression	11	19.6			
Family History of Schizophrenia	2	3.6			
1-2 Psychiatric Hospital Admission	11	19.6			
3-5 Psychiatric Hospital Admissions	20	35.7			
6 or More Psychiatric Hospital Admissions	19	33.9			
Received Oral Typical Antipsychotics	43	79.6			
Received Depot Typical Antipsychotics	44	81.5			
Received Atypical Antipsychotics	46	85.2			
Age			37.13	39	19-58
Duration of Illness (Years)			13.9	12	2-30
Maximum Dose of Clozapine (mg)			402	400	125-900
Duration of Clozapine Use (Years)			4.99	4	1-13
MMTD in Clozapine Use (Years)			5.98	6	0.3-13

MMTD - Mean Maximum Theoretical Delay

Dr Saleh M. El-Hilu, Consultant Psychiatrist and Clinical Director, Hallam Street Hospital.
Dr Arshad Khan,
Senior House Officer in Psychiatry, Hallam Street Hospital.
Dr. Srinagesh Mannekote Thiappaiah, Senior House Officer in Psychiatry, Hallam Street Hospital.
Corresponding author and reprints:
Dr Saleh M. El-Hilu, F.R.C.Psych.;
Consultant Psychiatrist/Clinical Director
Hallam Street Hospital, West Bromwich,
West Midlands B71 4NH, United Kingdom
Tel. 0044-121-6073908, Fax. 0044-121-6073914
E-mail: sami.el-hilu@smhsct.nhs.u

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الملخص:

على الرغم من التطور و التقدم الذي حصل في السنوات الأخيرة في مجال الأدوية المستعملة في علاج مرض الفصام (الشيزوفرينيا) فإنه لا تزال هناك مجموعة من هؤلاء المرضى لا تستجيب بشكل مرض لهذه الأدوية. و تعرف هذه الحالات التي يطلق عليها مرض الفصام (الشيزوفرينيا) المقاوم للعلاج بالحالات التي لا تستجيب للعلاج لدوائين من مضادات الأمراض العقلية أحدهما من الأدوية الجديدة اللانموذجية شريطة أن يكونا قد استعملا بجرعات علاجية و لمدة كافية لا تقل عن 6 الى 8 أسابيع أو يعاني المريض من بعض الآثار الجانبية لهذه الأدوية مما يحول دون تحمله الإستمرار بتعاطيها. و لما كان دواء الكلوزابين هو الدواء الوحيد حالياً المرخص للإستعمال لعلاج الحالات المذكورة أعلاه ، فان أهداف دراستنا هذه هو إكتشاف نمط أو نموذج وصف الأدوية المضادة للأمراض العقلية لهؤلاء المرضى قبل وصف الكلوزابين لهم، و كذلك إكتشاف مدى الإلتزام بالممارسة أو المزاولة الحالية في وصف هذا الدواء طبقاً لإرشادات المعهد الوطني للتفوق والإمتياز الإكلينيكي و كذلك معرفة مدى و أسباب التأخير في وصف الكلوزابين لهؤلاء المرضى.

و المنهج الذي اتبعناه في هذه الدراسة هو مسح و فحص تاريخ وصف الأدوية المضادة للأمراض العقلية من ملفات مرضى مستشفى شارع هالام للطب النفسي في انجلترا في شهر أغسطس عام 2004.

و كانت النتيجة بأنه وجدنا أن هنالك ستة و خمسون مريضا (35 ذكرا و 21 أنثى) قد وصف لهم الكلوزابين لمعالجة مرض الفصام أو مرض الفصام الوجداني طبقا لتعريف منظمة الصحة العالمية.

و بالتحليل وجد أن معدل تناول هؤلاء المرضى للكلوزابين كان حوالي الخمس سنوات. و قد وجد أن جميع هؤلاء المرضى عدا أثنين كانوا قد تناولوا مضادات الأمراض العقلية بما فيها الأدوية الجديدة اللانموذجية بجرعات علاجية و لمدة كافية قبل بدء تناولهم الكلوزابين. و كذلك وجد أن معدل التأخير النظري في وصف الكلوزابين يقارب الست سنوات.

هذا و قد أوقف استعمال الكلوزابين من قبل 4 مرضى بسبب عدم تحملهم لبعض أعراضه الجانبية و من قبل مريض خامس بسبب الإستجابة الضعيفة له.

و الخلاصة أنه قد حصل تأخير في وصف الكلوزابين لمدة أطول مما هو مرغوب فيه إكلينيكيا و أن الكلوزابين يستعمل بقدر أقل مما يجب في المملكة المتحدة مما يعكس تكلفة و تعقيدات العلاج به.

Amisulpride, Sodium Valproate and Lamotrigine were the only drugs used singly for the purpose of augmentation in ten of our patients. Three of those showed partial and seven good responses.

The most common adverse effects experienced by our patients were similar to those reported in the literature i.e. hypersalivation, weight gain, and drowsiness.

Limitations of the study:

It has been shown by several studies that inconsistent and intermittent treatment with antipsychotics lead to a poor outcome, considering the long duration of illness and number of readmissions. Meltzer et al[10] found that more than half (56%) in a group of treatment resistant schizophrenic patients had never responded to antipsychotics, with the remainder developing treatment resistance during the course of their illness. As it was not possible to ascertain whether our study patients were fully compliant with the prescribed antipsychotics prior to commencing Clozapine, it is not possible to know whether their treatment resistance was of a primary nature or developed during the course of treatment with antipsychotics. It may also have been that at least some patients did not, then, fulfil criteria for treatment resistance, but may have been treatment intolerant (although this is unlikely, given the range of benign atypicals now available). It is therefore possible that at least some of our patients may have developed treatment resistance through non-compliance and intermittent use of antipsychotics, which resulted in their relapse and hospital admission/readmission. Therefore, the patients in our study could be seen as a selective cohort of those who eventually were prescribed Clozapine.

In conclusion, patients in our study were likely to have received multiple antipsychotics, often in combination, before commencing Clozapine. The delay in prescribing Clozapine was substantial, which has affected treatment resistant patients' progress. We agree with Taylor et al[5] that the delay was quite likely longer than is clinically desirable, particularly in older patients. Future studies should evaluate more accurate and perhaps exact reasons for the delay in prescribing Clozapine, as there are now protocols allowing for commencing it in the community.

post- discharge full medication supervision of patients in the community a very hard if not an impossible task. There remains a group of patients who either will not comply with taking Clozapine as prescribed, sometimes due to intolerable side effects, or will not show a complete favourable response to it even with full compliance. In our study 16 patients (29.6%) had partial response and 2 patients (3.7%) had poor response to Clozapine. A possible explanation, in addition to the natural course of the illness in some schizophrenic patients, is poor understanding by some prescribers of what constitutes adequate dose and duration of treatment with Clozapine.

Switching between typical antipsychotics is unlikely to be effective in acute relapses[3]. In Taylor et al[5] study eleven percent of patients had not received an adequate trial of two antipsychotics before being prescribed Clozapine. 14.8% of our study patients had not received any atypicals before being prescribed Clozapine. However, they did receive at least two other conventional antipsychotics for adequate duration and adequate doses.

Clozapine is effective in early treatment resistance[9] and in first-episode refractory schizophrenia[10] and is more effective than haloperidol even in moderate treatment resistance[4]. It is probable, therefore, that patients in this study had, for whatever reason, potentially effective treatment withheld while successive ineffective treatments were evaluated.

Over recent years, dual diagnosis, the coexistence of mental health and substance misuse disorders has increasingly been seen as a major challenge to mental health services. It is difficult to establish prevalence rates, as there is a lack of consistency in the definitions, measurement tools, and time frames used in research studies. Figures cited range from 20-75%. However, it is generally accepted that 30-50% of patients with severe mental illness also have problems with substance misuse. This figure is thought to be higher in inner city areas and increasing. Only 8 (14.3%) of our patients have had a co-morbidity of alcohol and drug misuse, which is a much lower rate that it has been reported in other UK studies. Other investigators have found that Clozapine treatment may reduce substance misuse/abuse and this may partly explain the lower rate of substance misuse in our patients.

our patients had three or more psychiatric hospital admissions, most of which prior to using Clozapine, which is strongly suggestive of the severity of the illness and lack of response to prior antipsychotics in our patients. Our results are similar to those of Taylor et al[5] in that younger patients, those with a recent diagnosis of schizophrenia or schizoaffective disorder or those who met the criteria for treatment resistance after the introduction of Clozapine in January 1990 were prescribed Clozapine earlier. However, in our study the delay was also longer but not statistically significant in males and Afro-Caribbean patients. This delay occurred despite the majority of our patients having had adequate trials of other oral and depot preparations of both typical and atypical antipsychotics. The reasons for the delay in prescribing Clozapine were not always recorded in our patients' case notes and, therefore, were not systematically evaluated. We believe that it was mainly due to either the patients' lack of consent, the risk of developing serious adverse effects and the requirement for psychiatric hospital admission for initiating Clozapine. Some patients declined to consent to Clozapine treatment due to their reluctance to undergo frequent blood testing or even to consider switching to a different medication like Clozapine despite the apparent lack of response to their previous antipsychotics. Low base-line white blood cells count and the perception that those patients are more likely to develop neutropenia and agranulocytosis may have also delayed the initiation of Clozapine or put psychiatrists off it altogether. Prior to Clozapine, 85% of our study patients had received one or more atypical antipsychotics. Unfounded high expectations of other atypical antipsychotics, which were promoted on the basis of being more effective and with a more favourable side effect profile than the old conventional antipsychotics [6,7,8] may have also been an important factor in the delay of prescribing Clozapine. Psychiatrists have been hoping that with atypicals, there will be a less need for Clozapine, which has not, so far, materialised. It is worth noting that that the views of those patients who consented to taking Clozapine became much more positive towards it once their mental state has improved. However, the availability of only oral tablet formulation of Clozapine makes

injections and forty-three (79.6%) patients received oral typical antipsychotics

- Fifty-four patients (96.4%) had received 2 adequate trials of different antipsychotics. Eight patients (14.8%) had not received any atypicals before being prescribed Clozapine; however, did receive at least two other conventional antipsychotics for adequate duration and in adequate doses.
- Four (7.4%) patients received no typical antipsychotic before the Clozapine commencement; however, they had received at least two atypicals for adequate duration, in adequate doses.
- Mean maximum theoretical delay in 55 subjects was 5.98 years. Median=6 years;(Range, 0.3-13).
- Mean maximum theoretical delay was longer, but not statistically significant, in the following patients:
  - Mean theoretical delay for patients aged over 30 years at the time of analysis was 6.75 years vs. 3.5 years for patients 30 years of age or younger)
  - Mean theoretical delay for patients diagnosed before the introduction of Clozapine was 7.1 years vs. 5.2 years for those after the introduction of Clozapine)
  - Mean theoretical delay in Afro-Caribbean's was 6.6; Caucasian 6.1; Asian 5.6 years
  - Mean theoretical delay in males was 6.5 and in females 5.2 years
- In five patients (8.9%) Clozapine was discontinued due to intolerable side effects (4 patients) and poor response (one patient).
- Mean maximum dose of Clozapine was 463.8mg. Median =450; (Range, 150-900);
- Mean minimum dose of Clozapine was 402.6mg. Median =400; (Range, 125-900)
- Response to Clozapine was as follows:
  Good = 36 patients (66.6
  Partial = 16 patients (29.6%)
  Poor = 2 patients (3.7%)

Discussion:

The main finding of this retrospective analysis was that the average delay of the prescribing and use of Clozapine in the majority of our patients was just under six years. This is almost one year longer than that found in Taylor et al[5] study. This could be partly due to the different demographic and highly deprived background of our study patients. Also more than two thirds of

before January 1990 when Clozapine was not available.

Results

- Fifty-six patients receiving Clozapine were identified and their prescribing histories were analysed.
- All the 56 patients had a chart diagnosis (case notes diagnosis) of schizophrenia or schizoaffective disorder.
- Mean age of patients was 37.13 years. Median=39; (Range, 19-58).
- Thirty-five patients (62.5%) were male and twenty-one (37.5%) female.
- Forty-seven (83.9%) patients were single, six (10.7%) married and three (5.4%) divorced.
- Thirty-three patients (58.9%) were Caucasian; fifteen (26.8%) Asian; eight (14.3%) Afro-Caribbean.
- The majority, 46 patients (82%) were unemployed.
- Mean duration of illness was 13.9 years. Median=12 years; (Range, 2-30).
- 11 patients (19.6%) had 1-2 psychiatric hospital admissions, 20 (35.7%) patients had 3-5 admissions and 19 (33.9%) had 6 or more admissions. The number of admissions was not recorded in 6 patients (10.7%). – Tab 1 shows that 39 (69.6) had 3 or more psychiatric hospital admissions.
- The commonest co-morbidity was substance misuse (6 drugs and 2 alcohol) - Interestingly despite common knowledge of high rates of substance misuse in schizophrenia, we found only 8 (14.3%) of our studied patients had a history of substance misuse.
- Eleven of the patients (19.6%) studied had a positive family history of depression whereas only two (3.6%) had positive family history of schizophrenia.
- Three augmenting drugs were identified, Amisulpride (5 patients), Sodium Valporate (4 patients) and Lamotrigine (1 patient).
- Mean duration of Clozapine use was 4.99 years. Median=4 ; (Range, 1-13)
- Forty-six (85.2%) had received an atypical antipsychotic at some point before the commencement of Clozapine, forty-five (83.3%) of those received atypical antipsychotics for adequate duration and in adequate doses
- Forty-four (81.5%) patients were tried on depot antipsychotic

schizophrenic patients eventually prescribed Clozapine.

2. To see whether the current practice of prescribing Clozapine comply with NICE (National Institute for Clinical Excellence) guidelines.
3. To see whether our results replicate those of Taylor et al[5] who carried out their study in four hospitals in southeast London serving a demographically different population from ours.

Method:

This is a retrospective case note study of prescribing histories of patients taking Clozapine, under the care of consultants in General Adult Psychiatry at Hallam Street Hospital, which is an acute inpatient adult psychiatric unit serving an approximately three hundred thousands highly deprived population of Sandwell in the West Midlands, UK, in August 2004. They were identified through information obtained from case notes, as well as admission and discharge summaries. A special pro-forma was devised, which included diagnoses, biographic data, age, gender, marital status, occupation, ethnic origin, first contact with local psychiatric services, psychiatric family history, co-morbidities, drug name, dose, dosing frequency and intended duration of treatment or quantity to be dispensed, and the number of episodes of prescribing of antipsychotics prior to the first use of Clozapine as a regular prescription for longer than one week at any dose. The number of "adequate trial" episodes before the first use of Clozapine at a therapeutic dose was calculated. Duration of the illness was calculated as the time of first contact with the services to the time of data collection. Augmentation strategies were also looked into.

Responses to Clozapine were recorded and defined as follow:

Good = Psychotic symptoms free or decrease in symptoms in terms of severity and frequency

Partial = Better response shown than with other antipsychotics

Poor = Lack of response or no response

The main outcome measure was the maximum theoretical delay in Clozapine use, defined as the time from the end of the sixth week of the continuous treatment with a second anti-psychotic given at a therapeutic dose to the first use of Clozapine but excluding the period

theoretical delay in using Clozapine was 5.98 years. Clozapine was discontinued in five patients, due to intolerable adverse effects in 4 and poor response in 1.

Conclusion:

Our study shows that Clozapine treatment was quite delayed for longer than is clinically desirable. It also indicates that, like in many other countries, Clozapine is underused in the UK as well. This probably reflects the costs and complexities of therapy with Clozapine.

Introduction

Since the introduction of antipsychotic medications, there have been many advances in the treatment of schizophrenia and allied psychoses. Despite these advances there remains a subgroup of patients who are either partially or totally unresponsive or intolerant to antipsychotics. This subgroup of patients is said to suffer from treatment resistant or refractory schizophrenia. Treatment resistance occurs in about 10-40% of schizophrenic patients.

Various definitions of the criteria for treatment-resistant schizophrenia have been proposed. Treatment resistance is usually defined as a lack of satisfactory clinical improvement despite the use of two antipsychotics, one of which is an atypical, in adequate doses and for adequate duration Kane 1989[1]. It is generally accepted that the prescribed two antipsychotic drugs should represent two chemically different groups, each with a dosage more than 1000 mg Chlorpromazine equivalence and administered for a minimum of six weeks without a reduction of at least 20% of the Brief Psychiatric Rating Scale's total score. Most authors now recommend a switch to an atypical antipsychotic after only one unsuccessful trial with a conventional one.

Only Clozapine, which became available in January 1990, is documented as having superior efficacy in treatment-resistant schizophrenia.

Taylor et al[5] have found the mean maximum theoretical delay in using Clozapine was 5.0 years (range, 0-11.1 years).

The aim of our study is:

1. To discover prior patterns of antipsychotic prescribing in

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Review Article

Current Clozapine Treatment and Prior Antipsychotic Prescribing

Saleh M. El-Hilu, Arshad Khan, Srinagesh M. Thippaiah

المعالجه الحاليه بالكلوزابين ومضادات الذهان السابقه

صالح الحلو،أرشد خان ، سريناجيش ثيباي

Background:

In most countries including the United Kingdom, Clozapine is licensed for the treatment of resistant schizophrenia, which is usually defined, according to Kane 1989[1] and co-workers, as failure to respond to adequate trials of 2 antipsychotics for adequate duration. According to the BNF (British National Formulary) Clozapine should be introduced if schizophrenia is inadequately controlled despite the sequential use of two or more antipsychotics, one of which is an atypical antipsychotic, each for at least 6—8 weeks.

Method

Prescribing histories were obtained from the case notes, admission and discharge summaries and prescription charts for all patients on Clozapine at Hallam Street Hospital, England, in August 2004.

Results

Fifty-six patients, 35 males and 21 females, receiving Clozapine for schizophrenia or schizoaffective disorder (WHO International Classification of Diseases, ICD-10 Classification of Mental Disorders) were identified. The mean age of patients was 37.13 years. Forty-seven (83.9%) patients were single, six (10.7%) married and three (5.4%) divorced. Thirty-three patients (58.9%) were Caucasian, fifteen (26.8%) Asian and eight (14.3%) Afro-Caribbean. Mean duration of illness was 13.9 years. Mean duration of Clozapine use was 4.99 years. At some point before the commencement of Clozapine, forty-six (85.2%) had received an atypical antipsychotic, all of whom but one for adequate duration and in adequate doses, forty-three (79.6%) had received oral typical antipsychotic and forty-four (81.5%) had been tried on depot antipsychotic intra-muscular injections. All patients except two had received two adequate trials of different antipsychotics prior to the commencement of Clozapine. The mean maximum

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***Correspondence:**
Mudunkotuwe J, Arnone D, Abou-Saleh MT
Division of Mental Health,
St George's University of London,
London, UK
**Dr. M.T.Abou-Saleh, Mphil phD FRCPsych*
Reader & Honorary, Consultant Psychiatrist
Director of Research and Development
Department of Mental Health
6th Floor Hunter Wing

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more inclusive of patients with all severity of dependence and co morbidities, should be on as large a scale as possible, and should use widely accepted rating scales, so as to improve generalisability and applicability to the clinical setting as well as to facilitate future meta-analysis.

الملخص :

الهدف : مراجعة المعالجات الحالية الدوائية للإعتماد على الكحول .

الطريقة : تم إجراء بحث شامل للمعلومات المتوفرة على شبكة الإنترنت لتحديد الدراسات المنضبطة ، المراجعات العامة ، والإرشادات التي تم تقيمها في إستعمال المعالجة الدوائية في الإعتماد على الكحول .

النتائج : تم تحديد عدة أدويه مقيمه ومراجعة في المعالجة الدوائية للإعتماد على الكحول وتشمل : البنزوديازبين ، دايسلفرام، ثيامين، اكميروسات ونالنزوكسيون . وأقل من ذلك أدوية مثل مثبتات المزاج ، والأدوية السيروتونيه ، ومركبات أخرى لها دلائل متناميه على فعاليتها في معالجة الإعتماد على الكحول تمت مراجعتها .

الخلاصة : هناك أدويه علاجيه ثابتة الفعالية في الإعتماد على الكحول في مرحلة الأعراض الإنسحابيه ، ولكن في منع الإنتكاس فإن عدد من المركبات قد تم تطويرها مع نمو الدلائل على فعاليتها . لا زالت هناك حاجة لإجراء دراسات حول الجمع بين هذه المركبات .

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hepatotoxicity[51]. Nalmefene showed an effect in relapse prevention in randomised controlled studies (e.g. 52) not confirmed by subsequent multi-centre trials [53]. Dopaminergic drugs like tiapride and lisuride are effective in animal models of alcohol dependence, but evidence of clinical effectiveness in humans is scanty [51]. Odansetron has been investigated in combination with naltrexone in one study suggesting a positive effect in reduction of craving[54]. Benzodiazepines also show some evidence in reducing relapse rate in the short and medium term compared to placebo [3, 9]. It is not conventionally used in clinical practice because concerns regarding addictive and sedative properties, and street value in some countries where it can be used as a recreational drug.

Conclusion

Pharmacological therapies used in alcohol dependence are beneficial both in the acute phase of withdrawal and rehabilitation and should be considered for all patients. In acute withdrawal, the use of benzodiazepines is well established. It is the authors' view is that more evidence is necessary to support the use of mood stabilisers, particularly newer compounds, in this area. To address compliance issues, depot preparations of disulfiram may be useful, but only if newer preparations can deliver a higher regular dose to patients [2]. Also a recent study found that long acting injectable naltrexone formulations reduced heavy drinking compared with placebo in alcohol dependent adults[55]. In regards to relapse prevention, poly-pharmacy should be the subject of future work, as initial research has had promising results. Specifically, more studies are needed to evaluate the efficacy of combination therapy of disulfiram with naltrexone and acamprosate, and acamprosate with naltrexone. Both naltrexone and acamprosate should be prescribed in conjunction to psychological support as the majority of research in this area considered it as adjuvant treatment to a variety of psychotherapeutic interventions. These interventions seem to be of particular relevance to patients with comorbid conditions, like anxiety and depression. The use of serotoninergic agents and mood stabilisers could prove beneficial in the near future to reduce relapse rate in patients with a primary affective or anxiety disorder. The authors believe that new research should be

Nefazodone in combination with psychological interventions demonstrated to be as effective as psychological treatments alone in the short term. However, nefazodone was associated with an increased risk of alcohol consumption at 12 months. This trend towards a short term effect is mirrored in other studies with other similar compounds like zimelidine [43]. The frequent finding in alcohol dependence of significant co-morbidity has raised the question of whether the relapse rate in dually diagnosed patients could be reduced by giving additional treatment for the co-morbid condition. In a recent randomised controlled trial, SSRIs in combination with CBT for treatment of alcohol-dependent patients with co-morbid anxiety disorder, alleviated anxiety symptoms but had no significant effect on the outcome of alcohol treatment programs [44]. Sertraline in combination with CBT, compared with placebo, provided only modest benefit in terms of drinking outcome [45]. Similar findings occurred with fluoxetine [46]. The long-term therapeutic effects of fluoxetine plus psychotherapy on alcohol dependence slowly decreased when fluoxetine was discontinued shortly after the acute phase trial at 3-year follow up [47].

Based on current level knowledge, prescribing of serotoninergic agents cannot be recommended in clinical practice. Several factors including gender, extent of drinking and alcoholic subtype have proven to alter the treatment efficacy of the SSRIs. With reference to the different subtypes, it has been found in several studies investigating the use of various SSRI medication, that in Type 1 alcoholics (characterised by a later age of onset and anxious traits) treatment was beneficial, were as in Type 2 alcoholics (those with an earlier age onset and impulsive or antisocial personality traits) SSRI's may be of no benefit or worsen the outcome[48, 49, 50]. The great variability in therapeutic efficacy, suggests that identifying variables capable of predicting treatment responses constitutes the challenge for further research with this type of treatment.

Other compounds

Other compounds have been evaluated in alcohol dependence including nalmefene, and dopaminergic drugs. Nalmefene is an opiate receptor antagonist similar to naltrexone but with a better side effect profile particularly in relation to

disorders and alcohol related seizures. Data from randomized controlled trials support the utilization of carbamazepine in acute withdrawal [34] and indicate superiority compared to benzodiazepines in preventing rebound withdrawal symptoms. In the medium-long term carbamazepine may be efficacious in reducing post-treatment drinking, especially for those with a history of multiple treated withdrawals[35]. Valproic acid (divalproate semisodium) as a treatment for alcohol detoxification has also shown efficacy not only in the acute withdrawal phase but also in the maintenance stage, contributing to a reduction in the relapse rates[36, 37]. Some preliminary data also suggests that lamotrigine and gabapentine could be useful in alcohol detoxification[38]. Due to its pharmacological profile, topiramate is one of the most interesting newer anticonvulsants investigated in alcohol dependence. It has been found to be efficacious in alcohol detoxification and also has theoretical potential as preventive therapy [39]. Although the evidence supporting the use of mood stabilisers in alcohol dependence is increasing, it is not possible to draw definite conclusions about the effectiveness and safety of anticonvulsants mainly because data on outcomes are sparse and fragmented [40]. Another limitation for a widespread use of carbamazepine and sodium valproate in current clinical practice is related to limited evidence supporting their efficacy in the treatment of more severe forms of withdrawal, commonly treated in specialised settings [2].

Serotoninergic agents

The postulated inverse relationship between serotonergic activity and alcohol consumption has led to a plethora of studies looking into the use of selective serotonin reuptake inhibitors (SSRIs) to treat patients with pure alcohol dependence. Fluoxetine, citalopram, and fluvoxamine, have been tested for their ability to reduce alcohol consumption in subjects with pure alcohol dependence and have shown inconsistent results with a large inter individual variability in response rate (10 - 70%) [41]. The same uncertainty applies to the use of SSRIs as adjunctive treatment in alcohol dependence. A recent randomized controlled trial [42] compared the efficacy of a synergic combination of nefazodone/cognitive behaviour psychotherapy (CBT) versus nefazodone/group counselling, CBT/placebo, counselling/placebo.

limited side effects (e.g. transient diarrhoea).

Naltrexone

Naltrexone, act as μ-opioid receptor antagonist, reducing the rewarding effects of alcohol [25]. The efficacy of naltrexone has been largely studied in conjunction with psychological interventions [26]. Naltrexone has proven to be superior to placebo in the outcomes of abstinence, relapse rates, time to first drink, and number of drinking days, and improvement in GGT [2]. A recent review of 27 randomised controlled trials, concluded that, in the short term, naltrexone (50mg daily) can reduce the chance of full alcohol relapse by 36% (NNT=7), and of returning to drink by 13% (NNT= 12) [26]. Naltrexone could also significantly reduce alcohol intake in subjects with features suggesting a strong biological vulnerability [27]. In comparison to acamprosate, naltrexone may be as effective [28] or superior but only as part of a treatment programme lasting longer than 12 weeks and where the relapse but not the return to drinking is a concern [26]. Nausea and headache are the most common adverse effects with naltrexone [2, 29, 30]. Patients with shorter period of abstinence, lighter drinkers, of younger age and female are at increased risk for these adverse effects [30]. Regular monitoring of liver function is advisable when naltrexone is used at doses above 50mg/day as it has been associated with hepatotoxicity [2].

Combination strategies

Acamprosate treatment has been combined with disulfiram in one study which demonstrated improved effectiveness compared with acamprosate alone [31]. Naltrexone has also been studied in co-administration with disulfiram and has shown no particular advantage than treatment with naltrexone alone [32]. In one study acamprosate and naltrexone in combination halved the relapse rate in alcohol dependant patients at 12 weeks follow up in comparison to either treatment alone [33].

Non-approved compounds

Mood Stabilisers

The rationale for using anticonvulsants in substance-abuse patients is based on the putative aetiological role of kindling mechanisms in withdrawal syndromes. Clinically, the advantage of mood stabilisers in the treatment of withdrawal syndromes is based on their limited potential for addiction, as well as their recognised efficacy in the treatment of co-morbid psychiatric

and increased awareness may contribute to reducing the risk [10].

Thiamine and B vitamins

Patients suffering from alcohol dependence are particularly at risk from the dangers of vitamin deficiency. There are several reasons as to why this occurs in the alcohol dependant patient including an impoverished diet, poor gastric absorption and the possible complications of liver disease which can lead to the development of Wernicke's encephalopathy (WE) and Korsakoff's syndrome [15]. There is evidence that administration of thiamine improves the symptoms and signs of WE, specifically, opthalmaplegia, nystagmus, confusional state and ataxia [16]. Oral formulations of thiamine at a dose of 200mg four times per day and vitamin B strong tablet (30mg/day) can be sufficient for individuals requiring community detoxification. In subjects with more severe dependence syndrome, The Royal College of Physicians guidelines (UK), recommends intravenous B complex vitamins. Pabrinex® contains thiamine (B_1), riboflavin (B_2), pyridoxine (B_6) and nicotinamide and is recommended for intravenous use or intra-muscular injection[17]. It can be administered up to 3 times daily for the first 2 days and then one dose per day for a further 5 days.

Acamprosate

Acamprosate is a glutaminergic N-methyl-Daspartate receptors antagonist and γ-aminobutyric acid type A receptors agonist. The putative role of this compound is to suppress craving in response to learned clues [18]. Animal studies also support a neuroprotective role [19]. The efficacy of acamprosate has been shown in several controlled trials, systematic reviews and meta-analyses in conjunction with psychological interventions. Acamprosate is more effective compared to placebo according to different measures including abstinence, days drinking, time to relapse, γ-glutamil-transpeptidase (GGT), and treatment retention. At 3, 6 and 12 months, rates of abstinence were in the 25 – 50% range with a NNT of around 8-11 [20-22]. Naltrexone should be started soon after detoxification [23] and its effect may continue 1-2 years after discontinuation [24]. Some evidence supports the view that acamprosate may be more effective in patients with primary alcoholism[23]. Acamprosate is available in 333 mg tablets and dosing is by weight. It is well tolerated with

benzodiazepines according to their reported level of alcohol consumption which is reduced over a period of around 7 days. A symptom triggered regime requires skilled monitoring and dose administration in order to prevent development of withdrawal symptoms [2, 4, 5]. Front loading requires administering 20mg diazepam plus supportive therapy every 2 hours during withdrawal [6]. None of these methods show any clear efficacy when compared against each other [2, 3]. The undoubted effectiveness of a long acting benzodiazepine has to be balanced against the risk of complications in those patients with severe hepatic impairment, severe physical co-morbidity and poly-pharmacy[7] and indeed against the risk of dependence to the benzodiazepine itself [2, 3, 8]. Side effects are generally under-reported and an increased awareness of their presence could minimise adverse events [9].

Disulfiram

Disulfiram blocks the action of the enzyme aldehyde dehydrogenase. Following the ingestion of alcohol, acetaldehyde reaches toxic levels causing aversive symptoms like flushing, nausea, vomiting, headache, tachycardia, and palpitations. Large quantities of ethanol can cause severe reactions resulting in hypertension, collapse and death [2]. Unsupervised disulfiram treatment has limited utility in the treatment of alcoholism because of reduced adherence to treatment [10-12] and is no better than basic support [2]. If supervised and as part of a comprehensive treatment program, oral Disulfiram, may be of utility in reducing relapse rate in the short term [12, 13] and in the long term (> 50% at 9 year follow up) [14]. Evidence for the prescription of disulfiram implants is lacking and hence there is no justification for their use [12]. Ideally, disulfiram should be prescribed at least 24 hours following alcohol intake and the dose titrated up [10] or down[7] according to response in case of alcohol consumption. The practitioner should give the patient enough to cause a reaction if they were to drink ethanol but not too much as to increase the risk of toxicity [10]. Drowsiness, of short duration, is the only side effect described in the literature and can be minimised by prescribing in the evening. Fatal hepatotoxicity is a rare but serious adverse reaction estimated to occur in 1 per 25 000. Monitoring liver function especially in the early months of treatment,

Several recently developed drug treatments show promise in the alcoholism field. This review primarily focuses on pharmacological interventions for alcohol dependence.

Methods

A comprehensive search from a range of electronic databases including Medline, Pub Med, Psych INFO, and the Cochrane library was conducted identifying evidence published up to February 2006 to identify controlled trials, systematic reviews, and guidelines that evaluated the use of pharmacological interventions in the treatment of alcohol dependence. Key words used included carbamazepine, valproic acid, topiramate, mood stabilizers, benzodiazepine, disulfiram, acamprosate, naltrexone, vitamins, ethanol, alcohol, alcoholism, alcohol withdrawal syndromes, and alcohol dependence. The search was also complemented by manual search of bibliographic cross-referencing.

Results

Several compounds were identified in the treatment of alcohol dependence. Identified drugs, currently approved in the US and in the majority of European Countries, were benzodiazepines, disulfiram, acamprosate, and naltrexone. Drugs acting on dopaminergic and serotonergic mechanisms, mood stabilizers/ anticonvulsants have been studied in clinical trials but are not in general use for the treatment of alcohol dependence (non approved compounds in this review). The information is divided into the categories above for ease of explanation.

Approved compounds

Benzodiazepines

Benzodiazepines are used extensively for the treatment of alcohol withdrawal. $GABA_A$ receptors are the binding site for this compound with the effect of enhancing γ-amino butyric acid (GABA) within the central nervous system. GABA acts as an inhibitory neurotransmitter and is implicated in multiple aspects of alcohol intoxication, dependency and withdrawal. Benzodiazepines have been found to be beneficial in reducing the severity of alcohol withdrawal symptoms [2,3]. Also, with regards to seizure prophylaxis, benzodiazepines show a clear benefit above placebo. Benzodiazepines can be prescribed in several different ways including a fixed regime, symptom triggered therapy or a 'front loading' regime[2]. In the case of a fixed regime patients are prescribed a set dosage of benzodiazepines according to

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Review Article

Pharmacological treatments of alcohol dependence

Mudunkotuwe J, Arnone D, Abou-Saleh MT

المعالجات الدوائيه لإدمان الكحول: مراجعه

ج.مودونكوتو، د.أرنون ، محمد أبو صالح

Abstract

Objective: To review current pharmacological treatments for alcohol dependence.

Method:

A comprehensive search from a range of electronic databases was conducted to identify controlled trials, systematic reviews, and guidelines that evaluated the use of pharmacological interventions in the treatment of alcohol dependence.

Result:

Several compounds were identified and evaluated in the review that are well established in the treatment of alcohol dependence including: benzodiazepines, disulfiram, thiamine , acamprosate and naltrexone. Less routinely used compounds such as mood stabilisers, serotoninergic agents and other compounds with growing evidence of efficacy in the alcohol dependence have also been reviewed.

Conclusion:

There are well established pharmacological treatments for alcohol dependence in the acute withdrawal phase. However for relapse prevention, a few compounds have been developed with growing evidence of efficacy. Further research is needed to evaluate combination strategies of this compound.

Keyword: Alcohol dependence, addiction, pharmacotherapy.

Introduction

Alcohol dependence is a prevalent disorder worldwide with considerable costs to society in terms of medical, psychological and social care[1]. Pharmacological interventions for alcoholism are undoubtedly efficacious in the treatment of alcohol withdrawal. In relapse prevention the current approach is rather holistic in nature including pharmacological as well as psychological interventions.

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Correspondence
Kutaiba Chaleby,MD,FAPA
Athletes center
Orchard Hills Campus,
5300 Kids Peace Drive
Orefield, PA 18069-9101
A.Zawawi, MD

إستعمال هذا العقار كعقار مساند لعقار أو أكثر في علاج إضطرابات الأطفال التنموية المنتشرة التي يخالطها السلوك العنفي و السلوك الحركي المتكرر.

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that type. The sample size may also be a small one. Other problems like selection bias should also be considered before any conclusion is made. These defects, however, do not take away its value as a pioneer project that indicates a possible value in treatment of one of the refractory disorders in childhood and adolescence. Tiagabine is seem ingly useful as an adjunct drug. It is approved as such in treatment of seizure disorders, and it was used in this study in an augmenting strategy to treat refractory anxiety complicated by aggressive behavior and stereotypic movement disorder. A positive study of this type should call for more definitive work like a double blind placebo controlled studies.

الملخص

يلعب الناقل العصبي جابا دور حيويا في نواحي عديدة من وضائف الجهاز العصبي، ويوجد في حوالي الستين الى السبعين بالمائة من الملتقات العصبية في ذلك الجهاز. جابا يلتصق بثلاث مستقبلات عصبية أساسية. منها جابا آ، وجابا ب، وجابا ج. أما مستقبلات جابا آ، فهي بالدرجة الأولي مستقبلات ذات البوابة الاصقة لقنوات الكلور. عقار التاياجابين يختلف عن البنزودايازبين من أنه لا يعمل بصورة مباشرة أو غير مباشرة على مستقبلات الجابا. بل أنه يعمل بصورة خاصة و منتقية لإثباط الناقل المسمى جات 1و الذي ينقل جابا من المسافات العصبية ويرجعه الى داخل الخلية العصبية.. عقار التاياجابين هو العقار الوحيد المتوفر حاليا الذي يملك هذه الخاصية وهي خاصية إثباط رجوع الجابا إلى داخل الخلية وهو بذلك يزيد من تجمع الجابا في المسافات الخلوية العصبية ويزيد بذلك من تأثيرها الفاعل على وضائف الجهاز العصبي. إن هذه الدراسة عملت بطريقة مستقبلية ومفتوحة. وذلك بطريقة دراسة عشوائية لمجموعة من الأطفال المصابين بالإضطرابات التنموية المتشرة. ولقد أشترطت الدراسة على أن هؤلاء الأطفال مصابون بإختلاطات تتسم بالعنف السلوكي سواء أكان ذلك العنف متجه نحو الأخرين أم موجه الى ذات الطفل بأن يؤذي نفسه أو يكون مصابا بإختلاط يتصف بالحركة الدائمة المتكرره كأن يدور حول نفسه أو يتأرجح بنفسه بصورة مستمرة.. قد تلكون هذه الدراسة تتصف ببعض الضعف من كنها دراسة مفتوحة وقد يكون العدد المتخذ أصغر مما ينبغي، إلا أن وجود هذه الدراسة كدراسة كشفية ومستجدة في هذا المجال، يجعل أهميتها مقبولة لتكون دراسة ممهدة لدراسة أكثر عمقا وأكبر عددا. لقد كانت النتائج من هذه الدراسة مساندة لفكرة

and mood. He used to be tied down to a multi dosing, and multi types of medications. We had tow treatments failures. ZS was an epileptic and severely autistic. He developed seizure which was interpreted by parents as caused by Tiagabine. He therefore had to stop the drug early in the trial. JG did not respond at all to 8 mg, and his aggressive behavior continued, his parents were not willing to continue the trial.

At the start of this study, no enough data were available for the dose range of Tiagabine in treatment of anxiety disorder. Tiagabine dosing, therefore was deducted from the doses used for seizure disorders. Doses used in Crane's and Lara's studies were less than 12mg, suggesting that dosing for anxiety disorders are significantly less than those for seizure disorders. All subjects had dosed titrated from 2 to 4mg with 4mg increment every week. Doses over 12 mg, for JR were dose of 24mg reflect a desire on the part of the clinician to gain more of the desired response hoping that higher doses will give a better response. This has not happened with JR, however his condition was rated as 'improved" which would be interpreted as that dose of 24mg did not achieve a higher level of improvement. The same may apply to TC. The patient FD however was kept on 12mg for about three weeks with partial response, increasing the dose to 16mg was tried to make more significant changes. The evaluator rated that response as "much improved," in that particular subject, unlike Lara's and Crane's studies, a dose higher than 12 mg was found to be necessary.

Adverse side effects were rarely noticed. No patient has reported any transient side effect. Law starting dose and slaw titration are possible explanation. Significantly lower doses than identified FDA approved dosing for seizure disorders, may be another important reason. We had to discontinue the drug on two patients. ZS had a grand mal seizure, which was not documented to be Tiagabine related. JH however, developed a petite mal status which was documented by classic continuous run of three per second spike and waves. She had a negative (normal) EEG prior to the start of Tiagabine and a negative EEG after the discontinuation of the drug.

Conclusion

This is an open label study, suffers from all shortcomings of studies of

ety. That behavior was present in four of our patients. Self-soothing behavior not associated with inward or outward aggression was present in only one patient. Again this would reflect the referral practice, which unfortunately gives less than adequate attention to childhood anxiety symptoms if not linked to violence... Much like many other studies, our sample shows significant co morbidity and coexistence of other major symptoms such as psychosis. The co morbidity with affective Disorders, Attention Deficit Hyper Activity Disorder, Obsessive Compulsive Disorders, and Generalized Anxiety Disorder with tension has been well established in the literature [14].

Table II gives an over view of the pharmacological treatment aspect of this study. Under column 1, there is a list of the medications our patients were on prior to starting Tiagabine. This list however does not reflect previous efforts and medications trials that our patients have received. Also it does not show the dosage they were on. We elected not to include that to simplify the study and to focus on the main goat of this trial. Since those patients were identified as having failed previous trials, many of them were on different combinations of drugs and on the higher side of dosage. This column demonstrates the effort in treating aggressive behavior in adolescence. Treatment of violent behavior has proved to be complex and would include a strategic poly pharmacy. Many drugs were used including SSRIs, Mood stabilizers, Anti Psychotics, and Beta blockers. Anxiolytic groups such as benzodiazepines were proved to be less reliable (Masters KJ, Bellonci C, Bernet W, "Practice Parameters for the preventions and management of aggressive behavior in child and adolescent psychiatric institutions, with special reference to seclusion and restraint" [15] the possible addition of Tiagabine to our armamentarium of treatment of aggression points to the pioneering value of this study.

The outcome results of the sample are most encouraging. The majority of our kids responded very favorably. SB for example was able to stay in her class and to first time comprehends teacher instructions. She was hardly able to be away from time our room. RP has to the first time been free from constant fights in class and threats of being sent to a special school. LK has made a turn around in his behavior

Tiagabine at the end of the study was 10.5 Mg. Clinical Global impression scale was use to evaluate clinical outcome. There was a failure in achieving any satisfactory out come in two cases. Four patients were rated as improved, and eight were rated as much improved. There was one incidence of severe adverse reaction thought to be directly related to the drug in question with patient JH. She developed a petite mal status epilepticus. Tiagabine was discontinued immediately and patient was put on topamax. After few weeks she was put off topamax without the recurrence of seizure. JH, however, has initially responded favorable to Tiagabine.

Discussion

The sample taken was totally at random as every patient seen who caries the diagnostic criteria, who suffered from persistent target symptoms, were admitted in the study. There are an equal number of females as of males. An unexpected ratio in a supposedly random sample of a disorder known to be so much more prevalent in males. The fact that a target symptom of violent behavior is a condition of inclusion made more female inters the study. There is a well identified observation that rate of violence, although much more common in males in the general population, it is a bout equal between the sexes in mentally disturbed population, however Adjusting violence rates by population base rates shows demographics including ethnicity and gender to be a better predictor of violent behavior than psychiatric diagnosis [13] Diagnostic subtypes of Pervasive Development Disorder as distributed in the sample is only a reflection of the type of the clinical practice the authors have. They happened not to run any specific program for PDD children. They practice general child psychiatry representing an average practice of the sort. 12 out of the 14 were referred because of aggressive and violent behavior. The presence of violent behavior in children with PDD is not an uncommon symptom associated with PDD. Violence however, is understandably is over represented in a treatment sample. Self-mutilation, and head banking, could be classified as inwardly directed aggression, but they are usually associated with other stereotypic behavior as rocking and hand flapping. Many have viewed them as self-stimulating behavior, but we can think of them as self-soothing behavior to ameliorate intense anxi-

Results

This prospective open study included 14 juvenile age patients. Age ranges between five and 17 with a mean age of 11-5. Seven of the subjects are males and seven females. All have met the diagnostic criteria of Pervasive Developmental Disorders. Of those two were diagnosed as Autistic Disorder, four met the Diagnostic criteria of Asperger's Disorder, and eight were diagnosed as Pervasive Disorder of Not Otherwise Specified. Each of those individual patients was identified to have the target symptoms identified. Anxiety was presumed to be present in every patient who has the target symptoms. The target symptoms chosen reflect that there are no specific pharmacological treatments for the social and communicative core symptoms of the disorders. Those symptoms are also known to be particularly disturbing, making strong foundation for hospitalization. They also carry a higher level of objectivity, and reliability of reporting the severity of those symptoms. Assaults and aggression against others was the most common target symptom, was present in 12 patients. Self mutilation or abuse was present in three patients, while stereotypic movements were found in three patients. Many have met other disorders diagnostic criteria as well. Complex co morbidity is the rule rather than the exception. In this sample. Bipolar Disorder was present in five patients Psychosis was present in four patients, ADHD in four, OCD in three. Epilepsy, Mental Retardation, and Depression were each present in one patient. Those findings are illustrated in Table I.

Table II, demonstrates the medications patient were on prior to the start of Tiagabine. The second column lists medication patients were on at the end of the study period. Tiagabine was used mainly as an adjunct treatment strategy. It was added as target symptoms have persisted in face of ongoing treatment. All but in five instances the medication load was decreased after starting Tiagabine. The dose of Tiagabine was titrated up from 2 or 4 mg. Those older than 12 years were started on 4mg, younger than that were started on 2mg. Dose was increased on weekly bases for those who were treated as an out patient, while it was increased on a faster rate for hospitalized kids, based on individual tolerance. Mean dose of

	Carbamezapine Resperidone. Qutiapine.			
JR	Carbamezapine Fluvoxamine	Carbamezapine Fluvoxamine	24	Much improved
ZS	Anticonvulsants	Anticonvulsants	2	not improved
JH	Qutiapine	Qutiapine. Citolopram	12	Much improved
GH	Resperidone Valproax	Resperidone Valproax	8	Much improved
JG	Qutiapine Valproax	Qutiapine Valproax	8	Not Improved
JH	Qutiapine Carbamezapine. Klonazepam	Qutiapine'	12	Improved
MK	Qutiapine Klonipine Sertraline	Sertraline	12	Improved
SB	Stimulants Olanzapine Fluaxitine	Stimulants Olanzapine	8	Much Improved.
DM	Olanzapine. Paroxitine	Olanzapine Paroxitine	8	Improved
LK	Klonipine. Qutiapine. Stimulant. Peroxatine	Stimulants Peroxitine	8	Much Improved
RP	Resperidone. Peroxitine Valproax Beta Blocker	Peroxitine Valproax	8	Much Improved
FD	Olanzapine Klonipine Stimulant Cogentine Peroxitine Topamax	Olanzapine Topamax	16	Much Improved.

response. Tiagabine was used as an adjunct drug in this trial. Sometimes dosage of primary medica tions were decreased or eliminated all together, as more satisfactory results were obtained after the addition of Tiagabine.

Table I

name	age	sex	Target Symptoms	Diagnosis	Other major Symptoms/Dis.
DS	5	F	Self mutilation. Outward .Aggression.	Pervasive Dev. Dis. NOS	
TC	5	M	Outward Aggression	Autistic Dis.	MR. ADHD
JR	16	M	Outward Aggression	Asperger's Dis.	OCD
ZS	8	M	Head banging. Stereotypy, flapping. Outward Aggression.	Autistic Dis.	Epilepsy
JH	17	F	Head banging. Outward Aggression	Asperger's Dis	OCD
GH	9	F	Outward Aggression	Asperger's Dis.	
JG	12	M	Outward Aggression	Asperger's Dis.	
JH	14	F	Outward Aggression	PDD.NOS	Psychosis
MK	14	F	Stereotypy, rocking	PDD.NOS	Depression
SB	8	F	Outward Aggression	PDD.NOS	Psychosis
DM	12	M	Outward Aggression	PDD.NOS	Psychosis
LK	13	M	Outward Aggression	PDD.NOS	ADHD
RP	14	M	Outward Aggression	PDD.NOS	Bipolar Dis.
FD	14	F	Outward Aggression	PDD.NOS.	Psychosis

Table II

name	Previous med. Tried	End med. + Tiagabine	Tiagabine end dose	Outcome CGI Scale
DS	Stimulants. Resperidone. Qutiapine. Valproax	Resperidone Valproax	16	Much improved
TC	Stimulants.	Stimulants	16	Improved

in an open trial that Tiagabine has advantage over other GABAergic agents in the treatment of Post Traumatic Stress Disorder [9]. There are few controlled studies of medications for Pervasive Developmental Disorder spectrum. To date there are no pharmacological agents with US Food and Drug Administration-approved labeling specifically designated for the treatment of PDD spectra? There are some difficulties unique to the study of PPD, including the need to identify specific target interfere with the ability to find significant differences between groups [10]. Many of the pharmacological strategies for the treatment PPD spectrum have been extrapolated from adult studies and of related conditions, including attention deficit disorder, and obsessive compulsive disorder. For example SSRI were tried when insistence on routines or rituals are present. They were also used in anxiety and depression [11].

In this paper we are addressing anxiety as a distressing symptom of PPD. We are assuming that sever anxiety is responsible at least in part for certain PPD associated behaviors those include: aggressive behavior, rocking and other stereotypic behavior, self-abusing behavior, and or other sever disruptive behavior. For that reason Tiagabine was chosen as an anti anxiety agent to help treat these clinical traits.

Method

This is a prospective open study of a randomly selected group of children and adolescents with Pervasive Developmental Disorder. Clinical and genetic studies support expansion of the concept of Autism to include a broader spectrum of social communication handicaps. Thus many of our subjects were in the category of Pervasive Development Disorder, Not Otherwise Specified [12]. They all have failed more than one trial of pharmacotherapy and receive more than one drug for treatment of their anxiety. To inter the study they should have one or more of the following manifestation of anxiety:

1- Aggressive behavior, including self-injurious behavior.

2- Self-soothing behavior like rocking and other stereotypic behavior.

The trial included the addition of free dosing strategy of Tiagabine. Starting dose could be 2 or 4mg. Maximum dose did not exceed 16mg. Follow up period was minimal of 6 weeks. Clinical Global Impression Scale was used to assess

GABA-A, GABA-B, and GABA-C.[1] GABA-A receptors are primarily ligand gated Chloride channels receptors. They mediate fast inhibitory synaptic transmission by promoting Chloride ions influx inside the cell, creating a state of hyperpolazation of the cell membrane. They regulate neuronal excitability, which involves control of seizure and rapid changes in mood and anxiety. GABA-A receptors are distributed throughout the brain, where major subunits of those are ones targeted by, Benzodiazepines, barbiturates and ethanol. GABA-B is metabotropic receptors. They couple to Calcium and Potassium ions channels via G proteins, producing a slower regulation in sensitivity. They are may prove to be important in memory, mood, pain modulation and anxiety [2] GABA-C on the other hand are much like BABA-A, are chloride channels ligand-gated receptors. They are not targeted by Benzodiazepines, and their physiological role is not clear at present[3]. Unlike Benzodiazepines, Tiagabine does not act directly or indirectly on GABA receptors. It selectively inhibit Gat-1 transporter of GABA, and therefore blocks considerable amount of GABA synaptic reuptake[4]Tiagabine is the only available GABA Reuptake inhibitor clinically available. It is currently approved for adjunctive control of seizure disorder. Trial to test Tiagabine as an add-on for treatment refractory patients with bipolar disorder demonstrated limited efficacy with the majority of patients showing no change or worsening of clinical symptoms[5]. It however has been increasingly reported to have a specific anti anxiety effect. Schwartz reported a sample of five patients with treatment resistant Generalized Anxiety Disorder, who have favorably responded to Tiagabine (up to 8 mg bid) after proving unresponsive to a variety of medications [6] Crane of New York University has run an open study on Tiagabine, and has concluded that it might be an effective treatment of anxiety in patients who are partially or completely refractory to conventional pharmacotherapy[7] Malcolm presented case series demonstrating a positive effect of Tiagabine in treatment of substance abuse especially Benzodiazepine and Ethanol abuse[8] Lara of Woodside California has made the point that line of evidence-implicated dysregulation of GABA in many anxiety spectrum disorders, including Post Traumatic Stress Disorders. He demonstrated

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GABA Reuptake Inhibitor, Tiagabine in treatment of some anxiety symptoms of Pervasive Developmental Disorder

Chaleby K., Zawawi A.

معالجة أعراض القلق المصاحبة لإضطراب النمو المنتشر لعقار تياجابين المثبط لإعادة قبض الجابا

قتيبة الجلبي، ا. الزواوي

Abstract

GABA plays a vital role in many functions and present in 6-70 % of all synapses within CNS. GABA binds to three major receptor types: GABA-A, GABA-B, and GABA-C. GABA-A receptors are primarily ligand gated Chloride channels receptors. Unlike Benzodiazepines, Tiagabine does not act directly or indirectly on GABA receptors. It selectively inhibit Gat-1 transporter of GABA, Tiagabine is the only available GABA Reuptake inhibitor clinically available. This is a prospective open study of a randomly selected group of children and adolescents with Pervasive Developmental Disorder. This is an open label study, suffers from all shortcomings of studies of that type. The sample size may also be a small one. Other problems like selection bias should also be considered before any conclusion is made. These defects, however, do not take away its value as a pioneer project that indicates a possible value in treatment of one of the refractory disorders in childhood and adolescence. Tiagabine is seemingly useful as an adjunct drug. It is approved as such in treatment of seizure disorders, and it was used in this study in an augmenting strategy to treat refractory anxiety complicated by aggressive behavior and stereotypic movement disorder. A positive study of this type should call for more definitive work like a double blind placebo controlled studies.

Introduction

Gama amino butyric acid (GABA) is the most important inhibitory neurotransmitter in the central nervous system. It is found in high concentrations and widely distributed in all brain regions and spinal cord. It plays a vital role in many functions and present in 6-70 % of all synapses within CNS. GABA binds to three major receptor types:

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***Correspondence:**
Dr. Mohamed Al-Dabbas
JBPsych, DCP, DPM
Psychiatry Department
Royal Jordanian Medical Services
P. O. Box 962566, Amman 11196, Jordan
Telephone: + 962 777 71 99 71
E-mail: drmdabbas@hotmail.com

الحروق التي أدخلت المستشفى في نفس الفترة الزمنية للدراسة، وأن المتوسط العمري لحالات الحرق المتعمد كان 30 عام، وأن 50% من الحالات تتراوح أعمارهم ما بين 20-30 عاما، وكانت الغالبية العظمى من النساء. وكان المتوسط الكلي لنسبة حرق الجسم هو 60%. ودلت النتائج كذلك أن 48% من المرضى كان لهم محاولات سابقة لحرق انفسهم، وأن معدل الوفيات كان 79% .

وتظهر الدراسة أن 78% من الحالات كانوا يعانون من إضطرابات نفسية حيث أن أغلبيتهم شخصوا بإضطراب سوء التكيف، وان 22% من الحالات كانوا يعانون من مشاكل إجتماعية أوعائلية أو زوجية. هناك بعض التوصيات في هذه الدراسة للوقاية والحد من هذه الحالات.

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survivors had long hospital stays and suffered severe disfigurement [10]. The poor outcome from DSB could be improved by well-coordinated multidisciplinary patient management with early psychiatric team involvement [13].

Seventy-eight percent of subjects with DSB were given psychiatric diagnoses and the most common diagnosis was adjustment disorder. The data illustrated that marital disharmony represents the main precipitating factor of DSB. Twenty-two percent of subjects were found with social, familial or marital problems; some women may resort to self-immolation as a method of expressing their anger and dissatisfaction at their current social state. This highlights the need for taking preventative measures, which should be focused on family structure, particularly in relation to marriage.

One limitation of this paper is that it did not look into relevant sociocultural factors, such as religious background, socioeconomic standards and educational levels of DSB cases in comparison to other burn cases.

Recommendation:

On the basis of this study I recommend that patients with an abnormal psychological profile – including suicidal ideation- be adequately monitored and regularly followed by appropriate mental health professionals.

Burn care professionals should be familiar with deliberate self-burn patients who constitute a considerable proportion of major burns and require constant psychiatric support by multidisciplinary team in addition to burn care.

It is hoped that an awareness of the phenomena of deliberate self-burning will prevent these injuries in the future.

الملخـــــــص

الهدف من الدراسة: تم إجراء هذه الدراسة على 36 حالة حرق متعمد من أصـل 882 حالة حرق أدخلت الى وحدة الحروق في المركز الملكي الأردني للتأهيل/ مدينة الحسين الطبية خلال خمسة أعوام من بداية عام 2000 وحتى نهاية عام 2004، وقـد تمـت دراســـــة خصائصـــــهم الإجتماعيـــــة والنفســـــية والســـــريرية.

النتائج: دلت نتائج الدراسة أن حالات الحرق المتعمد تشكل 24.5% من مجموع حالات

Table 2. Psychiatric diagnosis of patients with deliberate self-burning

Psychiatric Diagnosis	No. of Pts.	%
Adjustment disorder	16	44.4%
Major depressive disorder	6	16.7%
Schizophrenia	3	8.3%
Personality disorder	2	5.6%
Alcohol and/or drug abuse	1	2.8%
No mental illness (social, family or marital problems)	8	22.2%
Total	**36**	**(100%)**

Discussion

This paper studied the psychosocial characteristics and clinical patterns of a group of patients treated in Burn Unit following deliberate self-burning. The sample studied does not reflect DSB in Jordan as most cases were referred from different part of the country and DSB in our country may more likely go unreported as the patient and family deny the act and claim the incident of burn as an accident to avoid social stigma and legal problems. In this study, 87% of cases were women, and most of them were married and between 20 and 30 years of age. The preponderance of women in the present sample is consistent with a typical pattern in Middle East and Indian subcontinent [9, 10, 11].

An estimated 40-50% of people who commit DSB are thought to have made previous attempts [12]. Forty-eight percent of the sample from the present study had previous DSB.

The most common method of DSB in this study was to pour kerosene over themselves and set light to it. The median extent of burn was 60% of total body surface area (TBSA), with the top of the body mainly affected. The mortality rate is 79% and is similar to other Asian countries [7, 910, 11].

Mortality in DSB was higher than that of accidental burns and the

8.3% (*n=3*) were 40-50 years and 19.4% (*n=7*) were above 50 years. The average age for both males and females with DSB was 30 years *(Table 1).*

Table 1 Age and sex distribution of patients with deliberate self-burning

Age Distribution (year)	No. Patients Male	No. Patients Female	Total	
			No. Patients	%
<20	0	3	3	8.3%
20-30	3	15	18	50%
30-40	0	5	5	14%
40-50	0	3	3	8.3%
>50	2	5	7	19.4%
Total	**5**	**31**	**36**	**100%**

The most common method used for DSB was to pour kerosene over themselves and set light to it *(n =28, 78%),* the other eight *(22%)* used domestic gas to cause an explosion, 48% of the cases *(n=15)* had previously attempted DSB.

The median Total Body Surface Area (TBSA) burnt was 60%, and the mortality rate was 79%.

Among the 36 cases of DSB 78% *(n=28)* were given psychiatric diagnoses, and 22% percent *(n=8)* were found with no mental illness but having social, family or marital problems. The most common diagnosis made was adjustment disorder 44.4% *(n=16),* the second most common diagnosis 16.7% (*n=6*) with major depressive disorder, but 8.3% (*n=3*) had schizophrenia, 5.6% (*n=2*) had personality disorder and 2.8% had alcohol and/or drug abuse *(Table 2).*

Self-immolation among young Muslim women in parts of the Middle East and Central Asia is increasingly becoming a cause of death and disability and very little is known about this phenomenon [4]. Male victims generally predominated in Western countries, and females in the Middle East and the Indian sub-continent [5].

In Jordan self-inflicted burning by kerosene is a common, traditional and dramatic way of attempting suicide by females [6] and 13.5 percent of suicidal deaths were due to fire burns and scalds [7].

DSH in developing countries may more likely go unreported and many victims never reach medical attention, being construed as accidents to avoid social stigma.

This paper studied the psychosocial characteristics and clinical patterns of a group of patients admitted with deliberate self- burning to the Burn Unit in King Hussein Medical Centre in Jordan.

Methods

Throughout a 5-year period from January 2000 to December 2004, 36 patients with deliberate self- burning (DSB) out of 882 patients admitted to the Burn Unit of the Royal Jordanian Rehabilitation Center, King Hussein Medical Center, Jordan, were assessed by the liaison psychiatrist. The exclusion criteria included accidental burns. The liaison psychiatrist interviewed each patient individually using a semi-structured interview that included the demographic characteristics, precipitating factors, methods used for DSB, total body surface area (TBSA) burnt, and outcome. Psychiatric diagnoses were assigned according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) [8].

RESULTS

This study showed that DSB represents 4% *(n= 36)* of the total admissions (*n=882*) to burn Unit over the same period and is more common among females (*87%, n=31*) than males (*13%, n=5*) with a sex ratio F:M of 6:1. Sixty-one percent (*n=19*) of the female were married, 19.5% (*n=6*) were divorced, 13% (*n=4*) were engaged and the other 6.5% (*n=2*) were single. All men (*n=5*) were married.

The data was reviewed by age of the patient with the results summarized by decade. Three cases (8.3%) with DSB were below 20 years of age, 50% (*n=18)* were 20-30 years, 14% (*n*=5) were 30 to 40 years,

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Deliberate Self-Burning: The Psychosocial and Clinical Patterns among Patients Admitted to Burn Unit in King Hussein Medical Centre/ Jordan

Mohamed Hamdallah Al-Dabbas

حرق النفس المتعمد: النمط الإجتماعي النفسي والسريري لدى المرضى في وحدة الحروق في مدينة الحسين الطبية/ الأردن

محمد حمدالله الدباس

Abstract

This paper studied the psychosocial characteristics and clinical patterns of 36 patients with deliberate self- burning out of a total of 882 patients admitted to the Burn Unit of the Royal Jordanian Rehabilitation Center, King Hussein Medical Center, Jordan, over a 5-year period from January 2000 to December 2004.

Deliberate self- burning (DSB) represents 4% of all admissions and is more common among females (*n=31*) than males (*n=5*) with sex ratio F:M of 6:1. Half of the cases were between 20 and 30 years of age with the mean age of 30 years, all males and the majority of females (61%) were married.

The mortality rate was 79% and the median Total Body Surface Area (TBSA) burnt was 60%. Forty-eight percent of patients (*n=15*) had previous deliberate self-burn (DSB).

Seventy-eight percent of subjects had a psychiatric diagnosis, of which the most common diagnosis made was adjustment disorder (44%), while the other 22% were found with social, familial or marital problems. Recommendations were made for some preventive measures.

Introduction

Deliberate self-harm (DSH) is defined as an act in which an individual deliberately initiates a non-habitual behaviour that, without the intervention from others, may cause lasting self-harm[1]. The reasons why people engage in DSH tend to be complex and multiple.

Deliberate self-burns (DSB) have been considered a serious mental health problem throughout the world and especially in economically developing countries[2]. Suicide by burning, although generally uncommon in England and Wales, is common in South Asian women[3].

Table (4): Trans-cultural comparisons between different countries regarding PTSD reactions:

Country	% of PTSD reactions among children
1. Israel	22
2.Lebanon	27
3. Palestine	44
3. Cambodia	47
4. Central America	52
5. Yemen	**68**
6. Kuwait	70
8. Iraq	80
7.Bosnia	93.8

Dr. Muhammed Hezam Almaqrami
MSc, MD
Assistant Professor of Psychiatry,
Faculty of Medicine,
University of Dhmar, Republic of Yemen.

د. محمد حزام المقرمي ، أستاذ مساعد، بكلية الطب جامعة ذمار، الجمهورية اليمنية
صنعاء، شارع خولان ، ص. ب: 20477
بريد الكتروني:almagrami@yahoo.com

6.Do you stay away from re-mainders of it (e.g.: places or situations)	30.5 % (n=69)	28.3 % (n=64)	**41.2 % (n=93)**	27.2 % (n=58)	19.7 % (n=42)	**53.1 % (n=113)**	7.08	.03
7. Do you try not to think about it?	37.7 % (n=84)	17.5 % (n=39)	**44.8 % (n=100**	33.5 % (n=70)	17.2 % (n=36)	**49.3 % (n=103)**	.98	.61
8. Do pic-tures about it pop into your mind?	44.0 % (n=95)	19.0 % (n=41)	**37.0 % (n=80)**	41.3 % (n=83)	24.4 % (n=49)	**34.3 % (n=69)**	1.79	.41
9. Do other things keep making you think about it?	34.3 % (n=74)	17.6 % (n=38)	**48.1 % (n=104**	34.0 % (n=68)	23.5 % (n=47)	**42.5 % (n=85)**	2.51	.29
10. Do you try not to think about it?	37.7 % (n=84)	17.5 % (n=39)	**44.8 % (n=100**	33.5 % (n=70)	17.2 % (n=36)	**49.3 % (n=103)**	.98	.61
11. Do you get easily irritable?	49.8 % (n=117)	18.3 % (n=43)	**31.9 % (n=75)**	49.3 % (n=104)	20.4 % (n=43)	**30.3 % (n=64)**	.35	.84
12. Are you alert and watchful even when there is no obvious need to be?	46.6 % (n=104)	16.6 % (n=37)	**36.8 % (n=82)**	46.9 % (n=97)	17.4 % (n=36)	**35.7 % (n=74)**	.07	.96
13. Do you have sleep problems?	53.2 % (n=123)	13.4 % (n=31)	**33.3 % (n=77)**	56.6 % (n=125)	14.9 % (n=33)	**28.5 % (n=63)**	1.29	.53

Table (3) Post traumatic Stress reactions according to the Impact of Events Scale-13:

Items	Marran			Hydan			Chi square	P value
	Not true	True to some extent	**True**	Not true	True to some extent	**True**		
1. Do you think about it even when you don't mean to?	42.4 % (n=98)	19.5 % (n=45)	**37.7 % (n=87)**	36.6 % (n=78)	20.7 % (n=44)	**42.7 % (n=91)**	2.65	.45
2. Do you try to remove it from your memory?	25.1 % (n=56)	19.7 % (n=44)	**55.2% (n=123**	19.2 % (n=41)	22.0 % (n=47)	**58.9 % (n=126)**	2.27	.32
3. Do you have difficulties paying attention or concentrating?	41.2 % (n=94)	17.1 % (n=39)	**41.7 % (n=95)**	45.9 % (n=94)	22.4 % (n=46)	**31.7 % (n=65)**	4.99	.08
4. Do you have waves of strong feelings about it?	51.2 % (n=116)	18.3 % (n=41)	**29.9 % (n=67)**	50.0 % (n=104)	22.1% (n=46)	**27.9 % (n=58)**	.99	.61
5. Do you startle more easily or feel more nervous than you did before it happened?	47.3 % (n=105)	16.2 % (n=36)	**36.5 % (n=81)**	47.5 % (n=97)	19.6 % (n=40)	**32.8 % (n=67)**	1.09	.58

dead bodies						
4.Witnessing of killing to relatives or others	22.2 % (n=48)	77.8 % (n=168)	13.1 % (n=25)	86.9 % (n=1660	5.75	=.02
5.Witnessing or exposure to shooting, bombardment,	67.1% (n=143)	32.9 % (n=70)	48.4 % (n=92)	51.6 % (n=98)	14.47	<.001
6. You are exposed directly to injury or wounding	12.0 % (n= 25)	88.0 % (n=184)	3.2 % (n=6)	96.8 % (n=182)	10.58	=.001
7. You are exposed directly to life threatening situations	61.7 % (n=127)	38.3 % (n=79)	32.8 % (n=60)	67.2 5 (n=123)	32.34	<.001
8. Exposure to displacement	65.7 % (n=136)	34.3 % (n=71)	9.7 % (n=18)	90.3 % (n=168)	33.12	<.001
9.Direct involvement in fighting	11.2 % (n=24)	88.8 % (n=190)	2.6 % (n=5)	97.4% (n=186)	11.22	=.001
10. Discomfort in seeing soldiers	25.5 % (n=55)	74.5 % (n=161)	20.5 % (n=39)	79.5 % (n=151)	2.38	=.31
11.Killing of family member	26.5 % (n=57)	73.5 % (n=158)	1.0 % (n=2)	99.0 % (n=189)	54.00	<.001
12.Disappearance of family member	27.3 % (n=59)	72.7 % (n=157)	5.2 % (n=10)	94.8 % (n=182)	35.35	<.001
13.imprisonement of family member	38.4 % (n=84)	61 .6 % (n=135)	2.6 % (n=5)	61.6 % (n=187)	78.19	<.001

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Table (1): Comparison between the high and low risk areas Regarding the means of exposure to traumatic experiences

Area	Number	Mean of traumatic experiences	Standard deviation
High risk (Marran) area	222	3.68	1.73
Low risk (Hydan) area	193	1.76	1.79

T-test = 8.68, p = 0.001

*** Table (2). The differences between Marran and Hydan regarding to the type of traumatic events experienced by school children:**

Traumatic events	**Marran % (n)**		**Hydan % (n)**		**Chi square**	**P value**
	exposed	Not exposed	exposed	Not exposed		
1.Witnessing of injury to relatives or others	31.2 % (n= 67)	68.8 % (n=148)	18.3 % (n=35)	71.7 % (n=156)	9.92	=.007
2.Witnessing of beating or humiliation to relatives or others	27.8 % (n=59)	72.2 % (n=152)	13.1 % (n=25)	86.9 % (n=166)	14.32	=.001
3.Hearing shouting for help, smelling or touching of	50.9 % (n=109)	49.1 % (n=105)	37.5 % (n=72)	62.5 % (n=120)	7.39	=.007

والمراهقين عنها بين الفتيات والأطفال الصغار. كما تبين أيضاً أن 20 % من الأطفال والمراهقين اتضحت لديهم أعراض نفسية أخرى.

خاتمة: أوضحت الدراسة أن تفاعلات إضطراب الكرب التالية للرضح مرتفعة لدى أطفال المدارس في مديرية يمنية تمت مناقشتها إضافة إلى الفروق عبر الثقافية كما صيغت التوصيات المتعلقة بذلك.

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areas other than Hydan district. This will help in more understanding and raise awareness about the extent and effects of violence on children in Yemen.

b. Risk factors affecting psychosocial responses of children to conflict and cultural mechanisms controlling their coping and resilience.

c. Role of children and the reasons for direct involvement of children in armed conflict.

2) Recommendations for capacity building:
Building the capacity of the community, organizations, families, women and children to overcome the devastating effects of armed conflict require the following[10].

a. Development of guides and manuals appropriate to all sectors of the community including children taking in consideration the religious and cultural background.

b. Establishment of training courses to the all staff of public and non-public services such as teachers, health workers, religious leaders, military and security officers in addition to the staff of NGOs including affected children, women and families.

3) Recommendations for advocacy:
Considerable efforts should be made to engage the government and community including schools, mosques, clubs, etc about the following matters;

i. Acknowledgement and consideration of children's rights

ii. Adverse Consequences of children involvement in armed conflict.

الملخص:

الهدف: تهدف هذه الدراسة إلى تقييم تفاعلات إضطراب الكرب التالية للرضح لدى أطفال المدارس في مديرية يمنية.

الوسائل: أجريت هذه الدراسة بإستخدام الطريقة الوصفية حيث استخدمت مقاييس معيارية على مجموعة من أطفال المدارس تتراوح أعمارهم بين 12- 18 سنة.

النتائج: بينت نتائج الدراسة أن 68 % من الأطفال ظهرت عليهم أعراض وتفاعلات إضطراب الكرب التالية للرضح، حيث كانت هذه التفاعلات أكثر وضوحاً بين الأولاد

insurgents did consider soldiers of the Yemeni government as unbelievers and enemies of God. They only fight, as they said, on behalf of America and Israel. So, they may think that expression of PTSD reactions is against their faith and loyalty. Studies are consistent in showing the value of religious and cultural values in minimizing the adverse effects of war-related traumas[11]. Another explanation could be attributed to the high social and tribal support that is provided to the affected families and children (this observation was seen clearly by the research workers). Strong family ties and support has been found to ameliorate the adverse effects of armed conflict traumas[1]. Further researches would be needed to provide more information about these issues. Moreover, PTSD reactions might be considered by the affected children as a sign of defeat in war. So, they may use the compensatory mechanism "denial" as part of the game. Finally, the more psychological complaints which appeared among children from high risk area could be caused by the high percentage of traumatic events as well as to the difficult daily circumstances they had experienced during displacement compared to low risk area. Children from high risk area (Marran) had actually faced more traumatic experiences than children from low risk area (Hydan). Particularly worrying is the number of children who were exposed to displacement (65.7 %) of children from high risk area compared to (9.7 %) from low risk area. Displaced children reported suffering from lack of food, water and clothes and from medical problems due to poor sanitation and poor medical care for more than three months. This result is very consistent with the previous transcultural studies [11]. The significant correlation between the Impact of Event Scale and the Strengths and Difficulty Questionnaire has proved previously reported relationship between the PTSD reactions and psychiatric disturbances. Therefore, the two scales actually validate each other by this result.

Conclusion and recommendations:

1) Assessment and research recommendations:
   Further research and studies are still needed in Yemen in order to explore the following points:
   a. Examination of situations of children affected by violence in

functioning or clinical interview beside the IES in order to establish the diagnostic criteria of PTSD.

For the sake of trans-cultural comparisons, table (4) shows percentages of PTSD reactions among children in different cultures[9]. It is obvious that the rate of PTSD reactions among Yemeni children seems to be among the highest between various countries. In terms of means of PTSD reactions, no significant difference was found among children from high and low risk areas. This finding could be explained by the fact that children from high risk area (Marran) were exposed directly to traumatic war experiences for a short duration of time only. They were really displaced voluntarily from the conflict zone just after two weeks of the start of the real fighting. In contrast, children of low risk area (Hydan) had been exposed indirectly to low rates of traumatic war experiences but for a longer duration of time. Actually armed conflict lasted about three months in these areas. The highly significant difference of post-traumatic stress reactions between adolescents and preadolescents could be explained by the maturation of the cognitive abilities of adolescents and their readiness to understand the meanings and negative consequences of traumatic events more than that of preadolescents. Similar results had been reported in several trans-cultural studies [7]. As can be seen from the findings of this study, Yemeni boys have shown more post traumatic stress reactions than girls. This finding could be attributed to their direct involvement in fighting more than girls. Consequently, being a male and above 15 years old would be the good prediction for developing PTSD reactions among children in both high and low risk areas. After three months of the resolution of war, patterns of PTSD reactions among school children showed that more avoidance symptoms have been reported, followed by intrusive symptoms and finally the least symptoms were hyperarousal symptoms.

The most impressive result of this study is the negative correlation that was found between the PTSD reactions and exposure to traumatic experiences of war. This surprising finding could be explained by the deep religious concept of the population in this area including children. They used to consider the conflict as a holy war against unbelievers. We had been told that many

65.8 % (N= 156) from Marran and 71 % (N= 160) from Hydan areas. The difference was not statistically significant between the two areas (chi square = 1.68 and p = .19). Post Traumatic stress reactions among adolescents (15 years old or more) were more prevalent 76.6 % (n=232) than preadolescents 52.3 % (n=81). The difference was highly significant (chi square = 28.0, p < .001). Similarly, sex differences showed significant effect on the rates of PTSD reactions. Of 310 children showing PTSD reactions according to the IES, 71 % (n=220) were boys compared to 29 % (n=90) girls (chi square = 3.83, p=.05). As can be seen from table (3) there were no significant differences between school children in both high and low risk areas regarding the items of IES (posttraumatic stress reactions). Unexpectedly, it was found that the total number of traumas experienced significantly correlated negatively to the total PTSD scores of children (Person correlation = - .359, p < .001).

IV. General psychological condition:

This was screened using the Self-Report version (SRQ) of the Strengths and Difficulties Questionnaire (SDQ). 21. 3 % (N= 50) of school children in Marran revealed more general psychological problems compared to 10.9 % (N= 24) in Hydan area (chi square= 8.97, p= .003). This finding indicates that generally school children in Marran (high-risk area) suffered psychologically more than their corresponding children in Hydan (low-risk area). Again, the total SDQ scores were found to be negatively correlated to the total traumatic experiences (Person correlation = -.23, p < .001). Finally, there was high significant correlation between the SDQ and IES in this study (chi square= 52.7, p <.001).

• **Discussion:**

This study has found high rates of post traumatic stress reactions among school children who were exposed to armed conflict in both high and low risk areas in Yemen. According to the Impact of Event Scale (IES), 68 % (N=316) of school children were reported to have suffered post traumatic stress reactions. This finding actually does confirm the universality of PTSD reactions among children after war and conflict situations. A limitation was the absence of other reports such as parent and teacher reports in addition to global

the low-risk (Hydan) area. The mean age for school children from Marran area was 14.81 (1.98) while the mean age of children from Hydan area was 15.59 (1.76) (t-test= 4.19, p= .01). There was no sex difference between school children in both areas. It was found that 68.1 % (N=147) were boys and 31.9 % (N=69) were girls in Marran area. In contrast, 63.2 % (N=122) were boys and 36.2 % (N=71) were girls from Hydan area (Chi Square=1.06, p=.30).

II. Exposure to the traumatic events:

This study has revealed that school children from both areas were exposed to many traumatic experiences particularly in Marran area. Of the 13 possible war traumatic exposures, children endorsed a mean of 4.63 (2.79) traumatic experiences in Marran (high-risk area) compared to 2.21 (2.29) traumatic experiences in Hydan (low-risk area) (t- test = 10.48, $p < .001$), table (1). It was found also that there was a significant difference between boys and girls regarding exposure to traumatic events in both areas. Every boy has a mean of 3.62 (2.75), while every girl had been exposed to 3.01 (2.97) traumatic experiences (t- test = 5.52, p = .03). It was found also that there was no significant difference between pre-adolescents (14 years and less) and adolescents (15 years and above) in relation to exposure to traumatic events. Adolescents exposed to a mean of 3.52 (2.85) traumatic events compared to 3.27 (2.62) traumatic experiences in preadolescents (T-test= .89, p = .37).

Table (2) shows the differences between the high (Marran) and low (Hydan) risk areas regarding the exposure of school children to traumatic experiences during armed conflict. Significant differences have been found between school children in both areas especially those related to violent items such as witnessing or direct exposure to sniper shooting or bombardment, direct exposure to life threatening situations, displacement and killing of a family member.

II. Post Traumatic Stress Disorder (PTSD) Reactions:

Of all 417 school children who participated from both high and low risk areas in this study, 316 children (68 %) reported post traumatic stress reactions as a result of this armed conflict. Scores of these students have exceeded the standard cut off point (17) for the Revised Impact of Event Scale (8-items).

in the Hydan District. Permission was also obtained from directors of the selected schools. More than thirty teachers, nurses and social workers who are working in Hydan were trained at the education center of the district before conducting this study. Training involved interviewing skills, using questionnaires and overview to psychological responses after war traumatic events. Moreover, administrators of the selected schools had been contacted to explain the nature and importance of this study, the classes then being randomly selected. The Arabic translation of the Children Revised Impact of Event scale -13 (CRIES-13), the Arabic version of the Strengths and Difficulties Questionnaire – Self- Report Version (SRQ) of the SDQ as well as the list of war traumatic events were administered to all students in each selected class. The CRIES-13 and the SRQ of the SDQ were explained to students item by item. Students were requested to feel free to ask any question if they did not understand any item. Then they were asked to answer anonymously each statement in both questionnaires while they sat separately. Therefore, permissions from their parents to participate in the study had not been taken. It was made clear that there was no obligation to take part in the study.

• **Data Analysis:**

Statistical Package for Social Sciences (SPSS- V 11.5) Program was used for statistical analysis. Descriptive statistics were used to present characteristics of the study samples. T- test was used to test differences between means (as all data were normally distributed). Chi Square was used to test differences between proportions. 0.05 was used as a cut off point to test the level of significance. Correlations were tested using the Person product moment correlation.

• **Results of the study:**

I. Sociodemographic variables:

Only 3 students refused to participate in this study. They objected to coordinate with the government and foreign organizations by any means. In contrast, 460 school students participated in this study. 43 students were excluded from the process of analysis due to insufficient information in their questionnaires. The remaining 417 students were distributed as follows: 53.7 % (N=224) from the high- risk (Marran) area and 46.3 % (N=193) from

• **Measurements**

1) The Arabic translation of the Children Revised Impact of Event Scale – 13 (CRIES-13) is used to measure the PTSD reactions. This instrument is a self report questionnaire constitutes 13 items related to post traumatic stress reactions in children of 8 years or older who are able to read independently[3]. The IES-13 consists of four intrusion items, four avoidance items and five new arousal items. This instrument was translated into the Arabic language by the principal investigator (Assistant Professor of Psychiatry) and back-translated blindly by a Yemeni expert in translation. The final form of translation was modified by a panel of Yemeni psychiatrists. This ethnographic modification by local Yemeni psychiatrists is regarded as a further checking process to the conceptual validity of the instrument used. In the field, the Arabic version of the CRIES-13 was administered to all students by the principal investigator in each selected class. The CRIES-13 was fully explained to students item by item.

Furthermore, students were requested to feel free to ask any question if they did not understand any item. Validity of the CRIES - 13 against an independent clinical diagnosis could not be studied due to war circumstances. Therefore, for screening purposes, we recommend that people use the results from the Intrusion and Avoidance scales only. If the sum of the scores on these two scales is 17 or more, then the probability is very high that the child will obtain a diagnosis of PTSD[4].

1) Self – Report version (SRQ) of the Strengths and Difficulties Questionnaire (SDQ); this questionnaire was developed by Goodman in England (1997) to measure emotional and behavioral disturbances in children and adolescents[5]. It was found to be valid and reliable in the Yemeni community[6].
2) List of war traumatic events: prepared from literature review[7,8] and modified after a preliminary investigation to the affected areas.

• **Procedures:**

Data collection was carried out Between 18–31 December 2004 (three months after the end of war). Official permissions were obtained from the Governor of the Saada Governorate, General Director and the director of the Education Office

However, it was estimated that hundreds of people were killed; thousands injured, displaced, imprisoned or disappeared as consequences to this armed conflict.

It was reported that war has a profound physical, emotional, developmental and social impact on children and adolescents and increases highly their vulnerability[1]. Previous studies have shown high prevalence of post traumatic stress disorder reactions among children after war in many cultures [2]. The concern of this paper is the psychosocial assessment of school children and adolescents.

Objectives:

This study aims to:

1) Determine the degree and patterns of post traumatic stress reactions and psychosocial adversities among children exposed to the armed conflict in Hydan (low-risk) and Marran (high-risk) provinces in Sa'ada governorate, Yemen.

2) Investigate the relationship between war traumatic events, PTSD reactions and general psychological disturbances.

Methodology:

• **Study area:**

Two neighboring provinces from Hydan district with their associated villages were selected in this study. 1) High-risk area: Marran province (10 $km^{2)}$ which was directly exposed to fighting. 2) low-risk area: Hydan province (5km^2) which was not exposed to direct fighting. However, it was considered as headquarters to the military operations.

• **Study Population:**

Study population was school children between 12 – 18 years old at Marran and Hydan provinces.

• **Sampling:**

Multistage cluster sampling was adopted in this study. At the first stage, all schools in the area (Marran and Hydan district in Saada Governerate) had been ascribed a number from 1 to 11. Out of eleven, eight schools (four schools from Marran and four from Hydan) were randomly selected. At the second stage, a random sample of classes was selected from these eight schools. Finally, students were chosen from six grades (the 7^{th}, 8^{th} and 9^{th} grades in the basic level and 1^{st}, 2^{nd} and 3^{rd} grades in the secondary level) in each selected school. One class was selected for each grade. Children below 12 years of age were not included due to the constriction of time and logistics.

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Post Traumatic Stress Disorder Reactions among Yemeni Children

Muhammad Hezam Almaqrami

تفاعلات إضطراب الكرب التالية للرضح عند الأطفال اليمنيين

محمد حزام المقرمي

Running title: PTSD reactions among Yemeni children
Key words: Post traumatic stress reactions, children PTSD reactions, conflict traumatic events, child general psychological condition.
Abbreviations: PTSD: post traumatic stress disorder, SDQ: Strengths and difficulties questionnaire, SRQ: self report questionnaire, The CRIES: Child Revised Impact of Event Scale and IES: Impact of Event Scale.

Abstract

Objectives: This study is aiming to evaluate the PTSD reactions among children and adolescents in a Yemeni District.
Methodology: Cross-sectional approach was adopted in this survey. School children of 12-18 years of age had been assessed using standard self-report questionnaires.
Results: the study revealed that 68 % of children were suffering from post traumatic stress disorder reactions. These PTSD reactions were higher among boys and adolescents. More than 20 % of children have shown also other emotional and behavioral problems.
Conclusion: Results of this survey have been showing higher rate of PTSD reactions among Yemeni children and adolescents. Trans-cultural points were discussed and recommendations were formulated.

Introduction

Armed conflict referred to in this study is the conflict which began in June and ended in September 2004 between military forces of the government of Yemen and thousands of insurgents at Hydan district and particularly Marran province in the Sa'ada Governorate/North of Yemen. This fighting lasted for almost three months (20 June- 10 September, 2004).. Accurate estimation to the size of problems and psychosocial adversities of this armed conflict is not known.

Table: 6
Frequencies of Management Activities

Type of Activities	N %
Counseling	21(50.0%)
Prescribing Drugs	8(19.0%)
Referral to Psychiatrist or psychiatric hospital	13(31.0%)
Total	**42(100%)**

*** Correspondence:**

*** Dr. Ziad.A.J.Zaidan, MB,ChB.,F.R.C.Psych.,D.P.M.,**

[1]Department of Behavioral Medicine, College of Medicine, Sultan Qaboos University, and PB: 35, PC: 123,
Al-Khod, Sultanate of Oman. Fax: 24413419, Email: zaidan@squ.edu.om
Dr. Hashim Jaddou, M.D.PHD.
Dr. Akram K.Al-Ahmad B.Sc.N.
[2] Ministry of Health, Amman, Jordan

Table: 5

Physicians' Recognition of positive GHQ Scores by a number of selected variables

Variable	Total N=227	Not Recog-nized	Recognized	P-Value
Sex				
Male	99	84(84.8%)	15(15.2%)	0.02
Female	128	92(71.9%)	36(28.1%)	
Age				
18-30 years	85	69(81.2%)	16(18.8%)	0.14
31-40 years	81	64(79.0%)	17(21.0%)	
> 40 years	61	43(70.5%)	18(29.5%)	
Level of Education				
Illiterate	73	51(69.9%)	22(30.1%)	0.03
Basic	41	30(73.2%)	11(26.8%)	
High-School	46	40(87.0%)	6(13.0%)	
Post-High School	67	55(82.1%)	12(17.9%)	
Job Status				
Employed	80	66(82.5%)	14(17.5%)	0.16
Retired	11	9(81.8%)	2(18.2%)	
Unemployed	136	101(74.3%)	35(25.7%)	
Number of Visits				
One time	64	55(85.9%)	9(14.1%)	0.05
> One time	163	121(74.2%)	42(25.8%)	
Complains				
Yes	145	61(42.1%)	84(57.9%)	0.00
No	82	76(92.7%)	6(7.3%)	
Medical Diagnosis				
Chronic	73	79(76.7%)	24(23.3%)	0.78
Non-chronic	154	97(78.2%)	27(21.8%)	
Physician Specialty				
General Practitioners	144	89(85.6%)	15(14.4%)	
Internist	39	24(61.5%)	15(38.5%)	0.02
Family Medicine	84	63(75.0%)	21(25.0%)	

Variable	Total	GHQ (Score>4) N(%)	P-Value
Family Income			
150 JD	174	106(60.9%)	0.32
150-300 JD	194	117(60-3%)	
> 300	12	4(33.3%)	
Job Status			
Employed	171	8(46.8%)	0.00
Retired	18	11(61.1%)	
Unemployed	191	136(71.2%)	
Number of Visits			
First Time	129	64(49.6%)	0.00
> One time	251	163(64.9%)	
Health Satisfaction			
Satisfied	243	107(44.0%)	0.00
Not Satisfied	137	120(87.6%)	
Life Satisfaction			
Satisfied	199	72(36.2%)	0.00
Not Satisfied	181	155(85.6%)	
Medical Diagnosis			
Non-chronic	224	124(55.4%)	0.04
Chronic	156	103(66.0%)	

Table: 4
Primary Healthcare Physicians' Recognition of Psychiatric disorders compared with GHQ scores.

GHQ Score	Not Recognized	Recognized
Negative (Score <4)	**150(98.0%)**	**3(2.0)**
Positive (Score >4)	**176(77.5%)**	**51(22.5%)**

Table:2
Frequencies of GHQ Scores

GHQ Score	Total (N=380)	Percentage (%)
Negative (Score ≤ 4)	153	40.3
Positive (Score > 4)	227	59.7

Table: 3
Prevalence of Psychiatric Disorder according to Positive GHQ scores by a number of selected variables

Variable	Total	GHQ (Score>4) N(%)	P-Value
Age			
18-30 yr.	155	85(54.8%)	0.00
31-40 yr.	144	81(56.3%)	
>40 yr.	81	61(75.3%)	
Sex			
Male	189	99(52.4%)	0.00
Female	191	128(67%)	
Marital Status			
Single	106	58(54.7%)	0.22
Married	260	160(61.5%)	
Div. or single	14	9(64.3%)	
Level of Education			
Illiterate	92	73(79.3%)	0.00
Basic	75	41(54.7%)	
High School	95	46(48.4%)	
Post-high School	128	67(56.8%)	

Table: 1
Descriptive analysis of study sample

Variable	Total (N=380)	Percentage (%)
Sex		
Male	189	49.7
Female	191	50.3
Age		
18-30 Years	155	40.8
31-40 Years	144	37.9
> 40 Years	81	21.3
Marital Status		
Single	106	27.9
Married	260	68.4
Divorced or Widowed	14	3.7
Level of Education		
Illiterate	92	24.2
Basic	75	19.7
High School	95	25.0
Post High School	118	31.1
Monthly Family Income		
< 150 JD	174	45.8
150-300 JD	194	51.1
< 300 JD	12	3.2
Job Status		
Employed	171	45.0
Unemployed	191	50.3
Retired	18	4.7
Number of Visits		
One time	129	33.9
> One time	251	66.1
Physical Status		
Chronic Illness	156	40.8
Non-chronic illness	224	59.2

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الخلاصه:

الأهداف: معرفة نسبة الحالات النفسية عند مراجعي المراكز العلاجية الأولية ودراسة أمكانية الأطباء على تشخيصها والتعرف عليهاعند المراجعين لهذه المراكز وطرق تعاملهم معها.

طريقة البحث: تم تقييم 380 مراجعاً للمراكز العلاجية في مدينة إربد شمال الأردن خلال فترة البحث البالغة مدة شهر واحد بواسطة إستعمال أستبيان الصحة العامة المحدث، وتم أيضاً تقييم الأطباء الذين فحصوا هولاء المراجعين بأستبيان أمكانية التعرف على الحالات النفسية وطرق علاجها.

النتائج: لقد وجد أن نسبة وجود الحالات النفسية عند عينة البحث هي 59.7% ولكن نسبة أكتشاف هذه الحالات من قبل أطباء المراكز الأولية كانت 22.5 % فقط. هذا علماً أن أطباء الباطنية كانت عندهم أكثر أمكانية على تشخيص الحالات النفسية من الأطباء العامين وأطباء الأسرة وقد قام أطباء المراكز الأولية بعلاج 50.9 % من المرضى الذين تم تشخيصهم.

الإستنتاجات: لقد أثبت البحث بما لا يقبل الشك أن هناك عدد كبيراً من مراجعي المراكز الصحية الأولية لديهم حالات نفسية تحتاج للعلاج، وأن هناك نقص في وعي أطباء هذه المراكز لتشخيص ومعالجة مثل هذه الحالات .

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vere disorders or comorbid anxiety, while physical symptoms impede recognition[45]. Possibly this is because women tend to express their symptoms more than men[41]. The physicians were better able to recognize psychiatric problems in illiterate patients compared to literate patients, which is consistent with other studies [4, 27, 32]. Recognition was higher also in the unemployed compared with employed and retired, but this finding was not in agreement with other studies [4,27,32], which shows higher figures in the retired. Medical condition is associated more with high recognition, which is again contrary to other studies[4, 27, 32], which could be explained by the fear of physician in diagnosing and treating psychiatric disorders or fear from the side effects of psychotropic drugs and also from confronting the patient with a psychiatric diagnosis[10]. Early recognition also helps in early treatment which could affect the outcome of the mental illness[43, 46] and also on its relation to severity[44]. Not only that but also it has its implications on service development [47].

Conclusions:

Our study has shown that in spite of the prevalence of psychiatric disorders in the primary healthcare centers being as high as 59.7%, the physicians in the centers were able to recognize only 22.5% of the psychiatric problems and treat only 11.4%. Our results also suggest that the following groups are more likely to have psychiatric problems: female, older age group, illiterates, unemployed, and the chronically ill who visit more than once and who are dissatisfied with their general health and life. There was also strong support for influence of the above patient characteristics as a key factor to influence a physician's ability for increase in awareness and recognition ability of mental illness. Our findings highlight the need for health planners to draw up sound strategies to educate and train primary care physicians to improve their awareness, recognition and management of mental illnesses in their patients.

Acknowledgement:

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Racial and ethnic differences do not seem to affect the prevalence of psychiatric disorders in various populations[32]. Since psychiatric disorders are considered a stigma in our community the general tendency is to ignore them or hide them unless they reach acute levels. Primary care physicians have the unique opportunity to discover and deal with them at early stages thus minimizing disability [3-7].

As in many other studies, we found patients above 40 years of age to have more psychiatric disorders [1,2,33]. Some other studies contradicted this because of cultural differences[34], or because of age [27,31,32,35]. Women were affected more than men; this is in line with all studies reviewed in the literature [1, 3,28,29,35]. In our study marital status did not seem to have much impact, unlike in other studies which found more psychiatric problems in singles than the married[1, 2, 3, 30, 36]. Psychiatric disorders seem to be more prevalent among the illiterate, compared with the literate, which is supported by other studies[1, 3, 29, 34]. Similarly, the unemployed and retired had higher prevalence of psychiatric disorders compared with those employed, also in agreement with others[13]. Patients who visited more than once had significantly higher prevalence of psychiatric disorders compared with those who visited the same physician only once. This finding is supported by other studies[1, 4]. The study also showed that those who were not satisfied with their life and health had significantly higher prevalence of psychiatric disorders, again consistent with other studies[36] possibly because psychiatric patients could have somatic complaints unresponsive to medical treatment as part of their illnesses[16]. We also found that chronic illnesses are associated with psychiatric symptoms consistent with other studies [35-38].

Despite the high prevalence of psychiatric disorders (59.7%) among primary healthcare patients in this study and other studies [3,4,7,16,39], primary healthcare physician was found to be unaware of this and failed to recognize (77.5%), recognizing only (22.5%) of the patients suffering from psychiatric problems. This finding is also in agreement with other studies[1, 2,3,40]. Recognition of psychiatric disorder was higher in women compared with men, a finding which is supported by other studies[4, 40, 41] and especially middle aged women, the unemployed, those with more severe disorders or comorbid anxi-

significant (P=0.02). The highest recognition according to age was found in those above 40 years (29.5%) followed by the 31-40 Year age group. The lowest recognition was in the 18-30 year age group (not statistically significant). As regards level of education, the highest recognition was found in illiterates (30.1%) compared with basic school education (26.8%), and high and post high school education (17.9% and 13.0% respectively), which shows a negative statistically significant association (P=0.03). Regarding occupation, recognition was (17.7%) in the employed, (18.2%) in the retired and (25.7%) in the unemployed group (not significant). Recognition was also found to be more in those who visited the same physician more than once (25.8%) compared with those who visited once (14.1%). This is statistically significant and shows a positive association (P=0.05). Patients who had psychiatric complaints were more likely to be recognized (31.2%) compared with psychologically healthy patients (P=0.00). Those who had been chronically medically ill were more likely to be recognized as having psychiatric disorders (23.3%) compared with those who were not chronically ill (21.8%). However, this was not statistically significant (P=078). As expected, the internists exhibited better ability to recognize psychological problems (38.5%) than family practitioners (25.0%) and general practitioners (14.4%). There was statistically significant correlation between recognition and awareness and physician specialty (P=0.02). (Table 5).

As regards management, primary care physicians were able to provide for 42 patients (50.9%) were recognized as having psychiatric problems, and this constitute only 11.4% of the total according to GHQ scores. Of these 42 patient recognized, 21 (50.0%) had counseling, 8 (19.0%) had drug treatment and 13 (31.0%) had been referred to Psychiatrists or Psychiatric Hospital. (Table 6).

Discussion:

Our data has shown beyond doubt the high prevalence of psychiatric disorders (59.7%). Many other studies in developed and developing countries have yielded similar findings[1, 5, 27, 28] though a few studies do give lower figures [2, 28-31]. The latter could be due to differences in study design, diagnostic tools and selection of population group.

pital; or no action had been taken, and also the medical diagnosis.

The data was processed using SPSS software. For statistical analysis, including frequencies, chi square (χ^2) was used in statistical evaluation of differences between the groups. P value of < 0.05 was used to determine significance.

Results:

The 380 patients in the study participated in all the study procedures. Out of these, 60 patients (15.8%) were seen by three internists, 140 (36.8%) by seven family physicians and 180 (47.4%) by nine general practitioners. There was almost equal distribution for males and females (50.3% women, 49.7% men) despite the random selection. The majority (40.8%) of the sample were in the age group 18-30 years, 37.9% in the age group (31-40) years and 21.3% were 40 years or older. More than two thirds 68.4% were married, 27.9% were single and 3.7% were either divorced or widowed. 24% were illiterate, 19.7% had basic education, 25.0% had completed high school and 31% had college and higher levels of education. As regards monthly income, 45.8% earned less than 150 Jordanian Dinars (JD) (1 JD equal to 1.4 dollars) and 3.2% earned more than 300 JD. Unemployed and retired were 50.3% and 4.7% respectively. The majority (66.1%) of the patients had two or more visits with the same physician during the previous month. Most had non-chronic illnesses (59.2%).(Table 1).

Statistical Analysis:

The percentage of cases suffering from psychiatric disorders, which were identified by GHQ score >4, was (59.7%) (Table 2).

The highest prevalence rates were in those above age of 40, females, divorced or single, who were illiterate, with low income, who was unemployed, who visited the clinic more than once, who were not satisfied with their health and general conditions of life and who had chronic medical problems. (Table3)

As regards recognition, physicians in the study were able to recognize only 22.5% of psychiatric problems as compared to GHQ scores, (Table 4).

The sensitivity was 0.22 and the specificity was 0.98 with GHQ as the reference measure.

Recognition was found to be more in psychologically disturbed women (28.2%) compared to men (15.2%), which was statistically

19 physicians, consisting of 3 internists, 7 family physicians and 9 general practitioners. Four trained research assistants conducted the interviews with patients and physicians. The interviewers approached patients after completion of physician's visit, explained the nature and purpose of the study and obtained their verbal consent, after which they were interviewed using the Modified General Health Questionnaire (MGHQ). The above two instruments were pilot tested with patients and physicians at every center. The MGHQ was preceded by questions to obtain demographic data (age, sex, level of education, marital status, occupation and family income) and two questions about the number of visits and if the patient had any known psychiatric disorder. The questionnaire also followed by two questions about general health and life satisfaction.

The GHQ is used worldwide[16,17], translated into 36 languages, used successfully in diverse cultural settings[18-21] and validated by using various methods of assessment. Present State Examination (PSE), diagnostic and statistical manual DSMIIIR and international classification of diseases (ICD9)[22-24]. Many studies show that GHQ was valid at a 4/5 cut-off point [25, 26]. For this study, the most recent GHQ (GHQ-28) was used. The questionnaire, when translated into Arabic and back to English blindly, was found to be in close agreement with the original. The scores ranged between (0-28). The cut-off score was 4/5, and a score of 0-4 represented absence of psychopathology, while score of (5-28) represented presence of psychopathology.

The Awareness, Recognition and Management Form were administered to the physicians. It had two parts. The first part intended to measure the ability of the physician to recognize the psychiatric symptom (anxiety, depression, psychosomatic complaint and social dysfunction) on a scale from 1-4. Response format was 1 = no complaint 2 = slight complaints 3 = moderate complaints 4 = severe complaints. For statistical analysis in this study, responses 1 and 2 were considered psychologically healthy and responses 3 and 4 were considered psychologically affected. The second part dealt with the management of the psychiatric disorders once they were diagnosed, with such measures as counseling, prescribing drugs or referral to a psychiatrist or psychiatric hospital; or no action had been

Introduction

Studies among primary healthcare patients show that those who have untreated psychiatric conditions seek medical help more frequently[10,11] . Therefore it is vital that primary care physicians are able to detect and are aware of the possibility that some of their patients may suffer from hidden psychiatric disorders. Most studies report detection rates between 30 and 40 % (range 7- 70 %)[9]. Such awareness, combined with the ability of the physicians to recognize and manage such disorders [1-7] would shorten the duration of illnesses and save time and costs[14-15]. Unfortunately, in spite of the high prevalence of psychiatric problems, there is low recognition of these by primary care physicians. This is even more serious in the developing world due to the limited availability of psychiatric services where good awareness and recognition of psychiatric illnesses by primary care physicians could provide an alternative. To assess the nature and extent of the problem and to suggest solutions, studies such as this have become necessary.

Material and Method:

This study, which was designed to examine awareness, recognition and management of psychiatric disorders among primary care physicians was conducted for a one-month period in August 1995 in six healthcare centers in Irbid, a governorate of Jordan. These centers altogether served a population of nearly 200,000. None of these centers provided any form of psychiatric service. All the patients (men and women) aged 18 and older who attended these health centers during August 1995 were included in the study by non-random selection. Pregnant women, those who had serious physical illness and those who visited for administrative reasons (leave, driving license etc.) were excluded from the study. The prevalence of psychiatric disorders in the selected patients was assessed with the judgement variables of patient's age, sex, level of education, marital status, income, number of visits and medical diagnosis. Regarding awareness, recognition and management, assessment was made in addition to the above-mentioned independent variables with patients' knowledge of possessing psychiatric disorders as well as physicians' awareness of that. The 380 patients included in the study were equally divided (20 patients each) among

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Psychiatric Morbidity in Primary Healthcare Setting in Irbid, Jordan: Prevalence, Recognition and Management

1 Ziad.A.J.Zaidan, [2]Hashim Jaddou, [2]Akram K.Al-Ahmad

دراسة الحالات النفسية في المراكز العلاجية الأولية في أربد-الأردن ومعرفة نسبتها وإمكانية تشخيصها وطرق معالجته

زياد زيدان ، هاشم جدو ، أكرم الأحمد

Abstract:

Objectives:

To determine the prevalence of psychiatric morbidity in primary healthcare setting, primary care physician's awareness and ability to recognize psychiatric disorders and the form of management applied.

Method:

380 patients, who had visited comprehensive healthcare centers in Irbid, North Jordan, during a one month period, were assessed using the Modified General Health Questionnaire (MGHQ) after being seen by general practitioners, family physicians or internists. The physicians or internists who had examined these patients were administered the Awareness, Recognition and Management Questionnaire.

Results:

While the prevalence of psychiatric disorders was 59.7%, primary care physicians were able to recognize only 22.5% of the psychiatrically disturbed patients. Internists were able to recognize psychiatric disorders more frequently than general practitioners and family physicians. Primary care physicians provided management to 50.9% of the psychiatric patients they recognized.

Conclusions:

The study findings suggested that there is a need to improve the awareness, recognition and management of psychiatric disorders at Primary Healthcare level and that certain type of patients who attended these centers were more likely to have psychiatric problems.

Key Words:

General Health Questionnaire (GHQ), Recognition, Prevalence.

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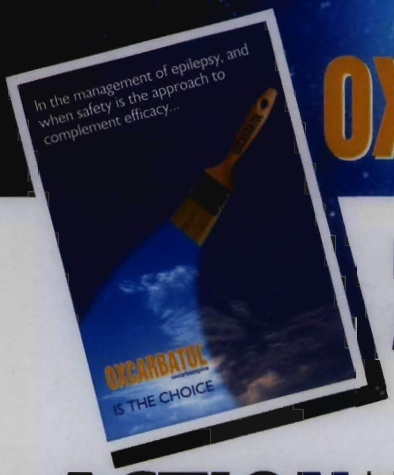

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DESCRIPTION: Oxcarbazepine is chemically closely related to carbamazepine. Oxcarbazepine and its derivatives have shown to be potent and effective anticonvulsants. **PHARMACOLOGY:** Oxarbazepine is rapidly and completely absorbed from the gastrointestinal tract. Peak plasma levels are attained within 4 hours. **INDICATIONS:** Oxcarbatol is used to treat the following conditions: 1- Primary generalized tonic-clonic seizures (grand mal). 2- Partial seizures with or without secondary generalization. **DOSAGE:** Adults: 1- Monotherapy: The starting dose is 300 mg daily to be increased gradually to 600-1200 mg/day in divided doses. 2- Polytherapy: In patients with severe picture of epilepsy the starting dose is 300 mg daily to be gradually increased to 900 - 3000 mg/day in divided doses. The dosage of Oxcarbatol should be adjusted to the patients needs and requirements when the drug is given concomitantly with other antiepileptic agents. Children: The dose should commence at 10 mg/kg body weight, to be increased gradually until the lowest effective level of the drug is obtained. The tablets should be taken during or after a meal with liquids. **CONTRAINDICATIONS:** - In patients with known hypersensitivity to oxcarbazepine. - In patients with atrioventricular block. **SIDE EFFECTS:** Normally oxcarbazepine is well tolerated . Adverse effects reported were mild and transient and occurred mainly at the start of treatment. The most common reactions were tiredness, drowsiness, dizziness, headache, ataxia, nausea, vomiting and diarrhea. **PRECAUTIONS:** In patients treated with diuretics, serum sodium should be monitored at regular intervals. Patients with renal, hepatic or cardiac dysfunction and geriatric patients should be under close supervision as they are at high risk. Pregnancy: Pregnant women with epilepsy should be treated with special care in the first trimester. The physician should evaluate the benefit /risk ratio. Nursing mothers: Oxcarbazepine is excreted in breast milk. The possibility of adverse effects to the infants cannot be ruled out. **DRUG INTERACTIONS:** Mono Amino Oxidase inhibitors should be discontinued at least two weeks before starting therapy with oxcarbazepine. - Estrogen and progesterone may be decreased in women taking contraceptives concomitantly with oxcarbazepine, which may result in loss of contraceptive efficacy. Alternative methods should be considered. **OVERDOSAGE:** There is no specific antidote in case of overdosage whit oxcabazepine . Patients should be treated symptomatically. The drug is removed by gastric lavage and activated charcoal, and the vital functions of the body should be closely monitored. **PRESENTATIONS:** Oxcarbatol 300 Film Coated Tablets. Pack of 10 tablets. Each tablet contains 300 mg oxcarbazepine. Oxcarbatol 600 Film Coated Tablets. Each tablet contains 600 mg Oxcarbazepine.

References:

1) Epilepsia.1995; 36 supp. 2. 2) Epilepsy - Res.1996 Nov; 25 (3): 299-319. 3) Clin - Pharmacokinet. 1996 Oct; 31 (4): 309-24. 4) Pharmacol Res.1995 Mar - Apr; 31 (314) : 155-62.

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1. Zeigler FJ, Imboden, JB, Meyer E. Contemporary conversion reactions: a clinical study. Am. J. Psychiatry 1960; 116:901-10.
2. Mosey AC. Occupational therapy. Configuration of a profession. New York: Raven Press, 1981.
3. Gotesman KG. Behavioural aspects of physical illness.* In: Ohman R, Freeman H, Holmkvist AF, Nielzen S, editors. Interaction between mental and physical illness. Needed areas for research. Berlin: Springer Verlag, 1989: 120-34.

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References: 1. Kratochvil CJ, et al. J Am Acad Child Adolesc Psychiatry 2002; 41 (7): 776 - 784. 2. Bymaster F, et al. Atomoxetine Increases Extracellular Levels of Norepinephrine and Dopamine in Prefrontal Cortex of Rat: A Potential Mechanism for Efficacy in ADHD. Neuropsychopharmacology, 2002; 27 (5): 699 - 711. 3. Strattera Summary of Product Characteristics. Lilly. 4. Kelsey D, et al. Once daily Atomoxetine treatment for Children with ADHD, Including an assessment of Evening and Morning Behaviors: A double-blind, Placebo-Controlled Trial. Pediatrics Vol. 114 No 1. July 2004. 5. American Academy of Child & adolescent Psychiatry. Guidelines for managing Attention Deficit / Hyperactivity disorder, Version 2.0. 2004. International Guidelines Center. www.myguidelinescenter.com.

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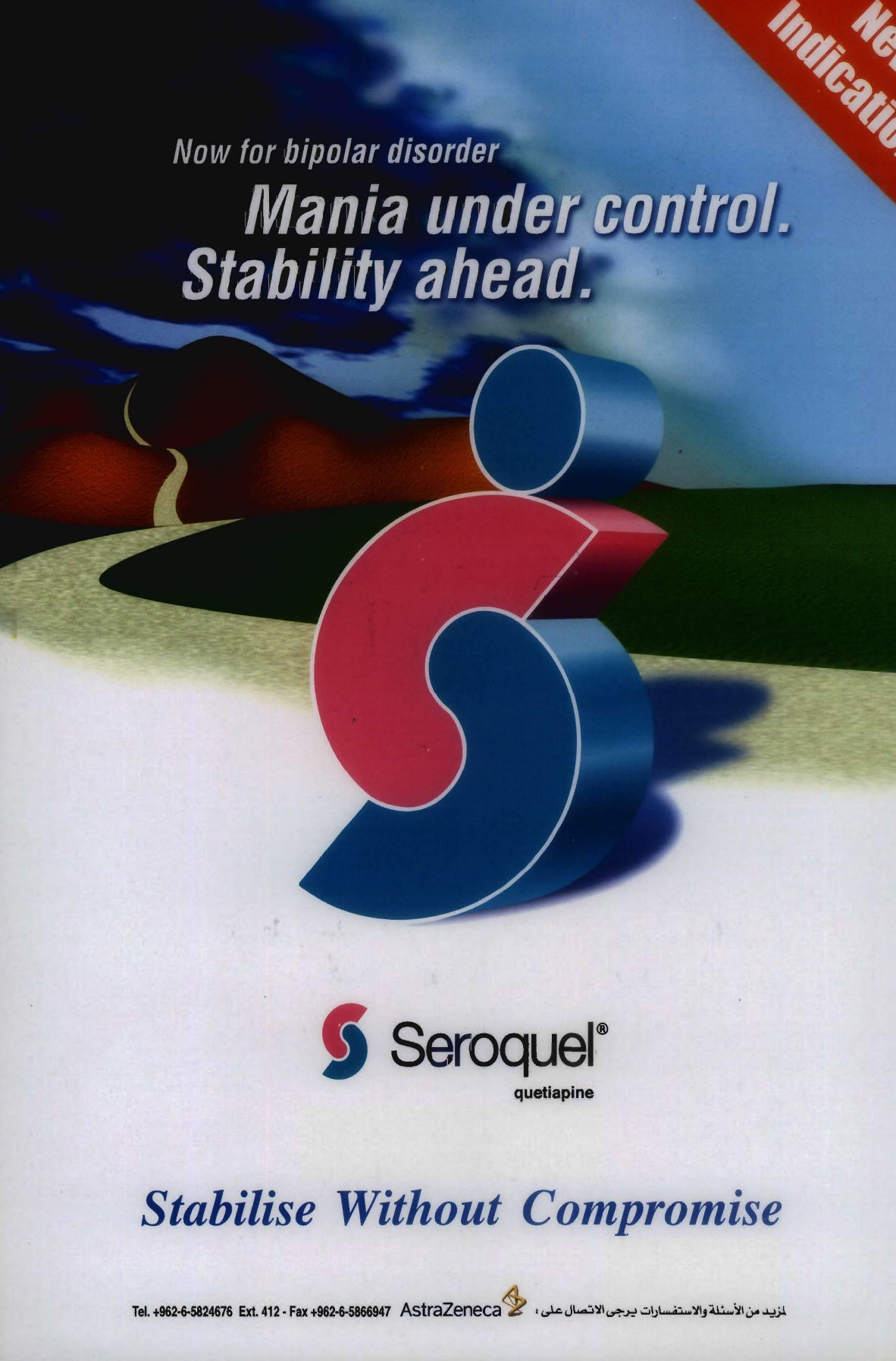
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