

Health situation of prisoners at a prison compliance centre, Chile

C Osses-Paredes¹, N Riquelme-Pereira²

¹ MSc in Nursing, Professor at Facultad de Odontología (Faculty of Dentistry), Nursing, Universidad del Desarrollo, Concepción-Chile.

² MSc in Family Medicine, Professor at Facultad de Medicina (Faculty of Medicine), Nursing Department, Universidad de Concepción, Chile.

ABSTRACT

Introduction: There are population groups nowadays that are regarded as vulnerable, one of which is the prison population, considered to have major health needs. Nonetheless, people deprived of liberty maintain inherent human rights such as that of health care, which in some situations may take second place.

Methods: Cross-sectional descriptive study, carried out at El Manzano Prison compliance centre, Concepción, from October 2011 to February 2012 with the implementation of a preventive health exam and a socio-demographic and health questionnaire, for 18+, female and male prisoners in a closed system, on reception of written informed consent.

Results: in the study, the population was 85% men, the average age was 34 years, 91.2% receive visits, average term of imprisonment 38 months. At least 45% have a diagnosed disease, prioritizing mental disorders, and respiratory and circulatory system diseases. 56% of prisoners have requested health care infrequently, 33% of which were very satisfied and 32% satisfied with prison health services.

Discussion: The health of the prison population is more impaired than that of the general population, with a larger number of needs that are also different, but there is a positive perception of health by prisoners and a high degree of satisfaction with health services.

Keywords: Health of specific groups; Patient satisfaction; Chile; Health status; Prisons; Delivery of health care; Health services accessibility; Needs and health services needs and demand.

Reception date: 11-01-2013

Approval date: 14-03-2013

INTRODUCTION

The insecurity increase in Chile has led to an escalation of the imprisoned population and hence of the overcrowding problem¹. This situation is not exclusive of Chile and puts the country in a similar position to that of Brazil, Colombia or Mexico, Latin American countries with larger prison overcrowding problems².

Currently the population in closed prisons is of 49,702 inmates, and it is mainly formed by quite young offenders, between 25 and 35 years old and mainly male (88%)³. As far as the sentences are concerned, most of them are related to property crimes (over 40% during 2004), followed by violation of Law 19,366 against illegal drug trade (7.1%)⁴. It is

important to mention that the Chilean prison system considers three types of regimes: closed prison, open prison and semi-open prison. The first includes offenders that are confined 24 hours a day, the second includes convicts that serve their sentence totally or partially out of the premises. Finally the semi-open regime comprises people that serve their sentence in training prisons (*Centro de Educación y Trabajo* (CET) Education and Work Centre) either in urban or rural areas^{3, 5-6}. In addition, all convicts are given a security category based on how dangerous they are considered. There are three levels: low risk, medium risk and high risk⁷.

That is how the penitentiary systems -particularly the closed ones- have an imposed regime of life that involves aspects such as punishment, solitary confi-

nement, isolation, continuous surveillance, just like inmate codes, that cause a loss of contact with their family, friends, real life and a loss of privacy⁸.

HEALTH IN PRISONS

Prison health is a term taken from the legal field that refers to any activity promoted by the prison authorities for the prevention and promotion health among inmates, whose general health needs are greater than those of the community as a whole, resulting in a high demand of primary care services in the correctional facilities. However, the conditions in prison greatly impair the provision of good primary care services⁹.

Prison conditions on their behalf, are characterized by an insalubrious environment with lack of services and deficient supply of drinking water, food, hygiene or healthcare services¹⁰, within an overcrowded habitat with badly ventilated cells¹¹. These conditions contribute to the deterioration of the health of this population, whose members normally come from disadvantaged communities with low health level prior to serving their sentence¹¹. In addition these individuals present a high prevalence of diseases, low socioeconomic and cultural levels, as well as an impaired access to healthcare services¹² and the serious difficulties to be admitted to rehabilitation programmes.

On the other hand, the International Covenant on Civil and Political Rights includes in Article 10 that "*All persons deprived of their liberty shall be treated with humanity and with respect for the inherent dignity of the human person*"¹³ and that is why inmates have the right of freedom, of speech, education, creed and health¹⁴.

A study carried out in an Andalusian prison¹⁵ found that 72% of the inmates considered that they have a good or a very good health and 32.7% of the prisoners stated that they pursue medical assistance once or more times a month. 43% of the convicted population informed that they suffer a chronic disease, mainly the infections by HIV (19.2 %) and hepatitis C (18.2 %). On the other hand, this population is more likely to die more prematurely than the same age general population, due to violence, diseases or psychiatric problems¹⁶. If we consider all the aforementioned aspects, and in virtue of the scarce information regarding the health status of the imprisoned Chilean population, which was not considered in the national health survey¹⁷ performed in 2009-2010, we intend to portray the inmates' health situation and their satisfaction with the healthcare provided within the correctional facility of *El Manzano*, in Concepción.

MATERIAL AND METHODS

The present study was carried out by using a cross-sectional descriptive model that included 141 inmates hosted in a closed regime in El Manzano Prison Compliance Center, in Concepción, from October 2011 to February 2012, who were selected by means of stratified random sampling in 9 male wards and in 3 female wards. The inclusion criteria comprised the following: inmates hosted in closed regime, over 18 years old, both female and male inmates, charged or already convicted, including hospitalized inmates. The selection was carried out in coordination with the prison's officers and healthcare staff.

All the inmates in open or semi-open prison regimes, with aggressive behavior, in solitary confinement or segregation units, or those who presented any kind of cognitive impairment were excluded from the sampling.

For the compilation of the information a questionnaire on both the criminal and medical records was provided, after expert validation with an average Ka of 0.89, along with the Preventive Medical Examination (PME). The medical record was considered the variable of the study and took into account aspects such as: morbidity, blood pressure, cholesterol blood levels, glycemia, continuous intake of medicines, smoking, physical activity, perception of previous and current health status, weight fluctuations, and metabolic syndrome. Metabolic syndrome is a combination of medical disorders or factors that increase the risk of developing cardiovascular disease and that is defined as having at least ONE/TWO of the following: central obesity (defined as waist circumference >102 cm in males, >88 cm in females), high blood pressure (BP>140/90mmHg), fasting glucose levels > 110 mg/dl, triglycerides > 150mg/dl, and HDL cholesterol < 40 mg/dl in males or < 50 mg/dl in females¹⁸. Finally other factors will be considered such as health satisfaction, preventive examination conclusions and the number of times that the individuals requested medical assistance throughout the previous year, classified as: always (over 15 consultations), usually (10-15 consultations), frequently (3-9 consultations), rarely (less than 3) or never.

To carry out the study, Ezequiel Emmanuel's ethical considerations¹⁹ were used, paying special attention to the informed consent, and with the approval of the ethics committee of the Faculty of Medicine of the University of Concepción, Chile, and with the Chilean Gendarmerie Regional Director's permission. Hence, due to the fact of being a special population, because of its vulnerability, the principles

of the Helsinki's Declaration were considered, which includes the protection of legally incapacitated individuals. Further, this project is supported by IdeaIncuba; High technology business incubator from the Concepción University, that depends of the Research Directorate and that receives funds from INNOVA BÍO BÍO, Technology Innovation Fund Committee of the Bío Bío Region, with the purpose of promoting innovation, technology transfer and capacity in the Bío Bío Region, through the support of thesis or final undergraduate or postgraduate education projects.

All the compiled information was used to build a database in SPSS v 15.0, to which both filtering and exploratory data analysis were applied for doing the descriptive statistical analysis with measures of central tendency and absolute and relative frequency distributions.

RESULTS

Regarding the gender composition of the sampling, 85% of the inmates were men and the remaining 15% women. The average age was 33.8 years old, and the most common age was 24 years old. 73% of the surveyed population was in prison serving their sentence, while the remaining 27% were defendants waiting for verdict.

On average, prisoners had been confined for 38 months, the inmate with a shorter period of imprisonment had been incarcerated for less than a month, and the one that had been imprisoned for longer had been jailed 264 months ago. The average sentence prisoners must serve is of 67 months, being the maximum sentence of 360 months.

91.2 % of the convicted population received visits; 64.5 % of these, received visits every time it was possible, 12.5% received visits once a month, 12.1 % were visited irregularly, while 2.1 % received annual visits.

49% of the imprisoned population had a medium risk profile, while another important 28% of the offenders had a high risk profile. 15% presented a low risk profile and 8% had not been classified yet.

MEDICAL HISTORY

45% of the interviewed imprisoned population presented at least one formally diagnosed disease.

According to the presented pathologies, the highest prevalence was that of mental disorders, including epilepsy, schizophrenia and intellectual impair-

ment, followed by respiratory diseases- specially asthma- diseases of the circulatory system such as high blood pressure, dyslipidemia, and diabetes mellitus. It is also important to point out the high proportion of inmates with digestive diseases mainly characterized by gastritis and peptic ulcers.

With regard to the use of medicines, 28% of the inmates related that they permanently took some kind of medicine.

In relation to the parameters of the inmates that presented some kind of disorder, the systolic blood pressure (SBP) was more affected than the diastolic blood pressure (DBP), however as a whole only 11% of them presented readings of pressure in the range of 140/90mmHg. HLD Cholesterol levels along with triglycerides were the laboratory tests that were most affected, followed by VLDL, total cholesterol and glycemia.

The imprisoned population tended to have a sedentary lifestyle, at the same time, 74.5% of the inmates notified weight fluctuations since they had entered the correctional facility: 55.2 % had gained weight and 44.8 % had lost weight. On the other hand, there was a relevant proportion of inmates with metabolic syndrome (19.9 %). 11% expressed to have had high-risk sexual activity during the last 6 months, at the same time 17% reported coughing for over a fortnight, and 62.4% smoked.

Considering an assessment scale ranged between 0 and 10, with 0 being the worst health status and 10 being the best perceived health status, there was a slight difference in the perception of the inmates' current health status (average 7.07) versus the perception they had prior to incarceration (average 6.69), being the current perception of health status better weighted and presenting more pronounced fluctuations than the previous health condition.

74% of the total population had experienced some weight fluctuation during incarceration, 55% of whom had gained weight and the remaining 45% had lost it. The majority of inmates rarely pursued medical assistance (56 %) and 15.6 % did so with some frequency. On the other hand, 13.5 % of inmates had never requested healthcare while in prison. Only 12.8 % and 3% had requested medical care on a usual basis and whenever they had needed it, respectively.

Of those inmates who had never sought medical assistance, a tendency to have a good level of satisfaction was observed (33% were very satisfied and 32% satisfied). On the other hand, 25% considered the healthcare provided "neither good nor bad", only 4% were quite unhappy and 6% were very disappointed.

Finally, 23% of the respondents reported to have undergone a preventive examination during their imprisonment.

DISCUSSION

The confined population is mainly formed by male young adults, who are supposed to suffer from lesser diseases. However, it is noteworthy that 45% of prisoners have at least one formally diagnosed disease, which coincides with what was reported by Oviedo¹⁵.

This is how the inmates' health has become a controversial matter, prone to suffering several diseases, and poorer than that of the general population, with a high prevalence of mental disorders, non-communicable chronic diseases and a significant proportion of infectious diseases. Also, it can be observed that female inmates suffer a slightly worst deterioration in their health than male inmates.

There is a low regular consumption of medicines within the correctional facility (28%). However, inmates have reported an irregular use of drugs. These drugs were provided by visitors and introduced illegally, with a prevalent use of painkillers and benzodiazepines.

Inside the correctional facility, inmates tend to be overweight or obese, this fact coincides with the results presented by Palomo *et al.*²⁰ Nonetheless these rates were higher for the Chilean female population.

This nutritional status can be explained by the prison's diet, a poorly balanced diet high in carbohydrates and low in proteins. Another important factor is the high rate of sedentary habits. However, these sedentary habits were lower than those found by Vaquiro²¹, but higher than the ones presented in the study of Palomo *et al.*²⁰.

The aforementioned can be determined by the weight gain experienced by inmates after their admission to prison. Something similar is observed with the

Table 1: Altered parameters within inmates

	Normal		Altered		Total
	Frequency	%	Frequency	%	
Systolic blood pressure	127	90.1	14	9.9	141
Diastolic blood pressure	136	96.5	5	3.5	
Total cholesterol	119	84.4	22	15.6	
LDL	140	99.3	1	0.7	
HDL	77	54.6	64	45.4	
Triglycerides	77	54.6	64	45.4	
VLDL	104	73.8	37	26.2	
Glycemia	124	87.9	17	12.1	
Abdominal obesity	112	79.4	29	20.6	

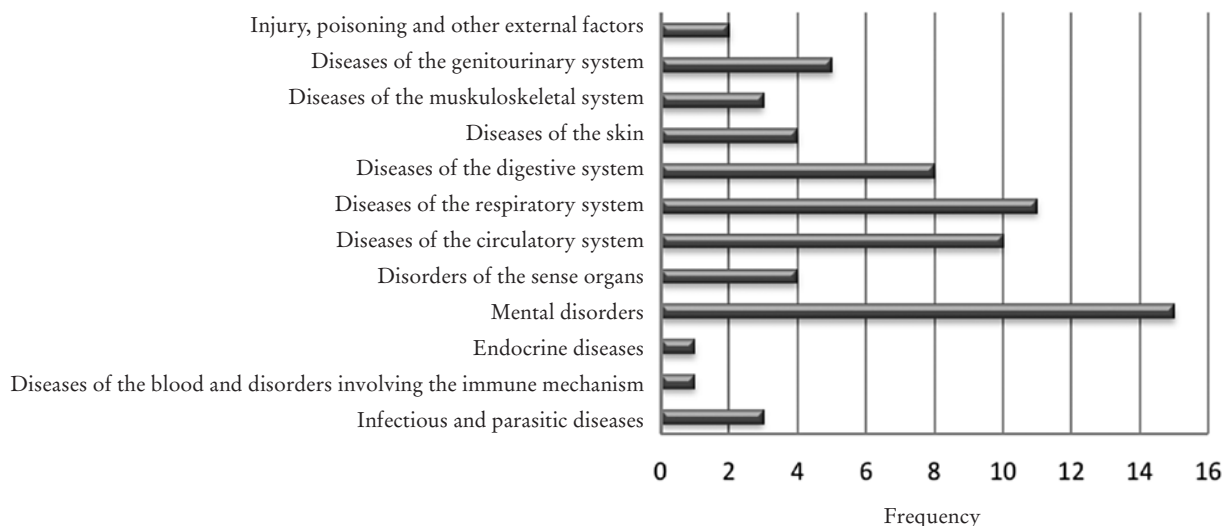


Figure 1: Classification of diseases presented by inmates according to ICD-10

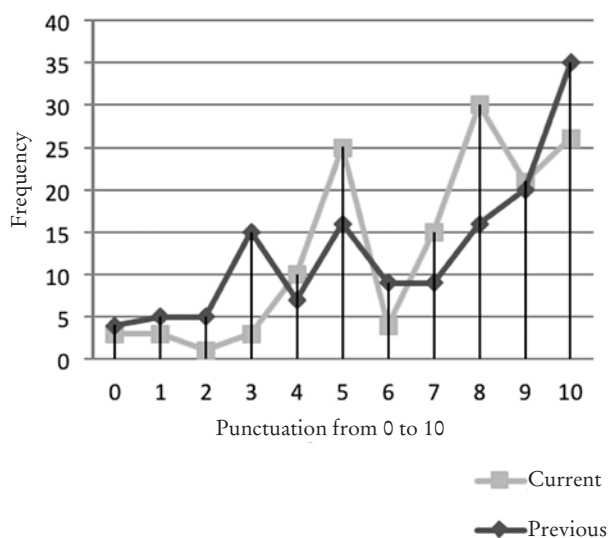


Figure 2: Perception of health among inmates

waist circumference, yet, only women had a deviated average value but not the men. This corresponds to what is reported by the diagnosis based on the inmates' health needs²².

One of every ten inmates presented altered blood pressure, and one of every two presented altered triglycerides and HDL levels. These parameters are in close relation with lifestyle, and entail that 1 in every 5 prisoners will suffer from metabolic syndrome. However, this proportion is less than half the rate estimated in a study carried out in Huelva²³. It should be noted that in this case, the inmates were unaware of their altered health status, and therefore they were derived to the cardiovascular preprogram for preventing more deterioration in their overall health. The preceding facts partially coincide with the results of Palomo *et al*¹⁹, showing therefore the specific and different particularities of the imprisoned population, who despite sharing similar risk factors with the ge-

neral population, have a completely different significance and proportion to those observed in the latter.

In the field of sexual activity, one in every ten inmates reported to have had unsafe sexual intercourse: figures that coincide with the results presented by Ortiz and Montiel¹⁹, regarding sexual activity with over one partner in the last 6 months, intercourse without the use of condoms and to a lesser extent, associated to practices between members of the same gender.

Regarding smoking, we must note that it is allowed to smoke inside the facility and high cigarette consumption is observed, almost twice the estimated by Palomo *et al*¹⁹. Those who did not smoke before confinement started smoking once in prison, and those who already smoked, increased the number of cigarettes smoked.

Despite all of the above, there is a perception of being healthy, similar to what points out the study conducted in the Andalusian prison. Still it is contrary to what the Spanish report for the quality assessment of healthcare services⁹ concludes. It should be noted that prevention and promotion activities within the prison are scarce.

Despite this, request for medical assistance is low, fact that can be justified because of an impaired access by gendarmes. Yet it is well valued by the inmates who claim that the aspect that should be improved is a more respectful treatment by the healthcare staff. Special emphasis was reported on physicians and on the convenient access to healthcare. It should be noted that inmates do not have the right to choose the care they receive, and this aggravates the inequality in health.

Finally, the facility acts as a protective factor against drug and alcohol use. However, diet, physical activity and smoking, are key factors that need further attention in order to improve the quality of life of the convicted population. It is therefore suggested to approach in future researches the social determinants of health in the imprisoned population. In addition,

Table 2: Other risk factors

	Yes		No	
	Frequency	%	Frequency	%
Sedentary lifestyle	83	58.9	58	41.1
Weight fluctuations	105	74.5	36	25.5
Weight gain/loss	58	55.2	47	44.8
Metabolic syndrome	28	19.9	113	80.1
High risk sexual intercourse	16	11.3	125	88.7
Coughing for over 15 days	24	17	117	83
Smoking	88	62.4	53	37.6

it would be worthwhile to increase the sample size in order to minimize the error and make it closer to 5%, and not to 7.9 %, which was the degree of error of the present study, subject to the available funds for this research.

CORRESPONDENCE

Claudio Osses-Paredes
Teacher in Dental Science School, Nursing Degree,
Universidad del Desarrollo, Concepción-Chile.
E-mail: closses.f@gmail.com

BIBLIOGRAPHIC REFERENCES

1. Situación de los derechos humanos en Chile. En: Instituto Nacional Derechos Humanos, Informe anual 2010. Santiago de Chile: INDH; 2010. p. 139.
2. Situación de los derechos humanos en Chile. En: Instituto Nacional Derechos Humanos, Informe Anual 2011. Santiago de Chile: INDH; 2011. p. 21-32.
3. Gendarmería de Chile. Sección Estadísticas [Internet]. Santiago de Chile: Gendarmería; ca2012 [citado 20 de agosto de 2012]. Disponible en: <http://www.gendarmeria.gob.cl/>
4. Foro de Expertos. Diagnóstico de la Seguridad Ciudadana en Chile. Santiago de Chile: Ministerio del Interior; 2004.
5. Darmmet L. El sistema penitenciario en Chile: desafíos para el nuevo modelo público-privado [Internet]. Santiago de Chile: FLACSO; 2006 [citado 22 agosto de 2012]. Disponible en: <http://new.flacso.cl/home/images/extension/congreso/lsa2006-sistema-penitenciario.pdf>
6. Grupo de enlace CLADEM en Chile. Informe de mujeres privadas de libertad en Chile. Santiago de Chile: CLADEM; 2006.
7. Gendarmería de Chile. Sección Estadísticas [Internet]. Santiago de Chile: Gendarmería; ca2012 [citado 20 de agosto de 2012]. Disponible en: <http://www.gendarmeria.gob.cl/>
8. Coninx R, Maher D, Reyes H, Grzemska M. Tuberculosis in prisons in countries with high prevalence. *BMJ* 2000; 320:440-2.
9. Ministerio del Interior. Calidad asistencial en sanidad penitenciaria en España, Mayo de 2010 [Internet]. Madrid: Ministerio del Interior; 2010 [citado 20 de agosto 2012]. Disponible en: <http://www.institucionpenitenciaria.es/web/export/sites/default/datos/descargables/bEpidemiologicos/SACACOORDINACIONONDESANIDAD9-4-10.pdf>
10. Comisión IDH, visita in loco número 78 a Haití realizada el 21 y 25 de agosto de 2008. Washington: CIDH; 2008 [citado 20 de agosto 2012]. Disponible en http://www.oas.org/es/cidh/actividades/visitas_todas.asp
11. Ortiz C., Montiel J. Sistema penitenciario; necesidades en salud en el CERESO de Pancho Viejo, Veracruz. Tesis maestría salud pública. Veracruz: Instituto de salud pública. Universidad Veracruzana; 2008.
12. Minchón H, Domínguez J, Delgado G. Educación para la salud en centros penitenciarios: evaluación de una experiencia en personas con diabetes *Rev Esp Sanid Penit*. 2009; 11: p. 73-9.
13. Oficina del Alto Comisionado de las Naciones Unidas para los Derechos Humanos [Internet]. Nueva York: OACDH; 1966 [actualizado 2010; citado 20 agosto 2012]. Pacto internacional de derechos civiles y políticos; [aprox. 10 pantallas]. Disponible en: <http://www2.ohchr.org/spanish/law/ccpr.htm>
14. MacFarlane I. The development of healthcare services for diabetic prisoners. *Postgrad Med J*. 1996; 72(846): p. 214-7.
15. Oviedo E, March J, Ramos M, Ballesta R, Prieto M. Percepción del estado de salud y utilización de servicios sanitarios por parte de las personas internas en una prisión andaluza, 1999. *Revista Española de Salud Pública*. 2005; 79 (1): 35-46.
16. Condon L, Gill H, Harris F. Review A review of prison health and its implications for primary care nursing in England and Wales: the research evidence. *J Clin Nurs*. 2007 Jul; 16(7): p. 1201-9.
17. Epi.minsal.cl [Internet]. Santiago de Chile: MINSAL, División de Planificación Sanitaria; c2012 [citado 08 enero 2012]. Disponible en: epi.minsal.cl.
18. Ministerio de Salud. Guía clínica examen medicina preventiva. Santiago de Chile: Minsal; 2008.
19. Lolas F, Quezada A. Pautas éticas de investigación en sujetos humanos: nuevas perspectivas. Santiago de Chile: OPS-OMS; 2003.
20. Palomo I, Icaza G, Mujica V, Núñez L, Leiva E, Vásquez M et al. Prevalencia de factores de Riesgo cardiovascular clásicos en población adulta de Talca, Chile 2005. *Rev Med Chile*. 2007; 135(7):p. 904-12.
21. Vaquiro S. Factores de riesgo cardiovascular y percepción de salud en cuidadoras del programa postrado, Cefsam penco, tesis para optar al grado

- de magister en enfermería. Concepción: Universidad de Concepción; 2011.
22. Ortiz C., Montiel J. Sistema penitenciario; necesidades en salud en el CERESO de Pancho Viejo, Veracruz. Tesis maestría salud pública. Veracruz: Instituto de salud pública. Universidad Veracruzana; 2008.
23. Gil-Delgado Y, Domínguez-Zamorano JA, Martínez-Sánchez-Suárez E. Valoración de los beneficios para la salud conseguidos mediante un programa nutricional dirigido a internos con factores de riesgo cardiovascular del Centro Penitenciario de Huelva. Rev Esp Sanid Penit. 2011; 3 (13): 75-83.